

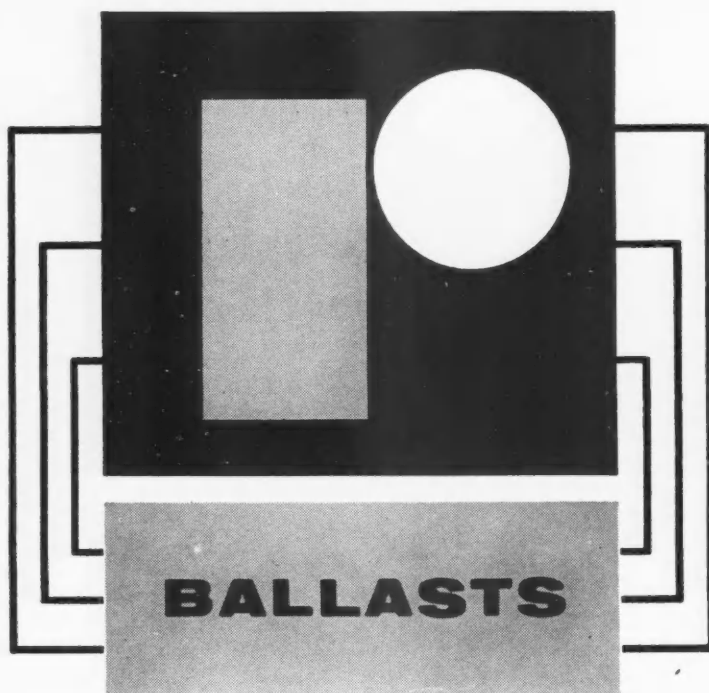
October 1961

Lighting

COMMERCIAL — INDUSTRIAL — INSTITUTIONAL — OUTDOOR — RESIDENTIAL

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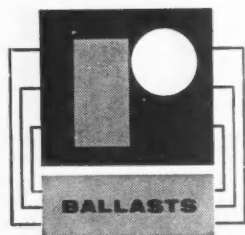
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LIGHTING for OCTOBER, 1961

For more details on above items, use reply card on page 21.

I



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LIGHTING for OCTOBER, 1961



Vol. 77

October 1961

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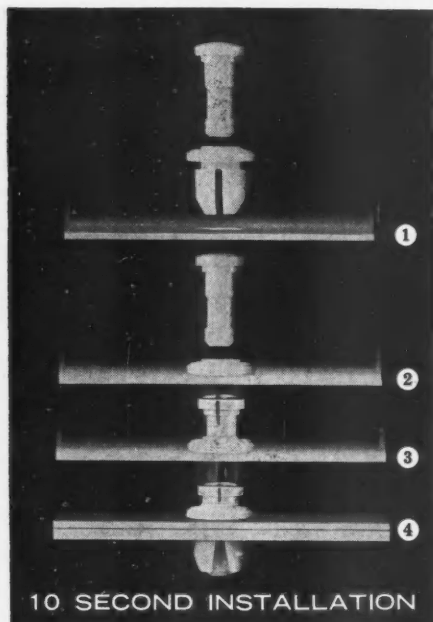
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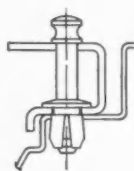
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Comment on an over-all lighting industry association

The editorials published on this page each month for the past several months have produced a number of comments from our readers. Many of these offer constructive suggestions that will be helpful to any group formulating plans for expanding and revitalizing an existing association or the formation of an entirely new group. This month we present two such letters of special interest, one from Mr. C. C. Keller, chairman of the Lighting Equipment Division of the National Electrical Manufacturers Association, and the other from Mr. Ted Cox, managing director of the American Home Lighting Institute. Other relevant letters will be published in succeeding issues.

To the Editor:

I have read with considerable interest your recent series of editorials advocating an over-all lighting industry association.

I am heartily in agreement with your comments as to the many worthwhile objectives which such an association might properly achieve. At the same time, I would call your attention to the fact that the Lighting Division of NEMA *does* function as a trade association for several branches of the lighting industry.

In fact, the over-all Product Scope of the NEMA Lighting Division includes Lamps, and other lighting products, so no expansion in that direction would be necessary to accommodate them whenever the manufacturers wish to set up a NEMA Section.

At the present time, the Lighting Division includes the Industrial & Commercial Lighting Equipment, Street Lighting, Flood-lighting and Aviation Ground Lighting Sections.

Each of the Sections in the Division carries on programs of its choice which it considers best suited to the needs of its branch of the lighting industry. Beyond this, however, the NEMA Divisional organization encourages all of the lighting Sections to function at Division level as a unit for consideration of over-all lighting industry problems. The Division is, in effect, a semi-autonomous manufacturers association but enjoys all of the benefits and savings which accrue from its being a part of the major trade group within the electrical manufacturing industry.

It is obvious, of course, that no association can be more effective than its individual members make it. It is also obvious that there are limitations on what any association can do under the law. I assure you, however, that NEMA does have the facilities for carrying on the many valuable and proper association activities outlined in your editorials.

As Chairman of the NEMA Lighting Division, I invite all those interested in an all-industry association seriously to con-

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A collection of seven different lantern designs from the Artolier catalog. The lanterns vary in shape and size, including a large multi-faceted one, a smaller one with a chain, a square one with two circular lenses, and others with various decorative elements. They are all hanging against a dark, textured background.

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Quality... new designs... **BIG PROFITS**... national advertising
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Blittersweet 8-2726-27

sider the facilities which exist in NEMA where there is in being strong, active and ambitious lighting equipment manufacturer's representation and which already has the structure to become, in fact, the all-lighting-manufacturing-industry trade association which you rightfully feel to be so necessary now.

Sincerely yours,
Clarence C. Keller, Chairman
NEMA Lighting Equipment Div.

To the Editor:

A major responsibility of any good business magazine is to give leadership, as well as information, to the industry it covers. LIGHTING should be congratulated for giving this leadership in its editorials on the need for an over-all lighting association.

Very few industries have the growth potential of the lighting industry. Every day, hundreds of new buildings go up with inadequate lighting, condemning thousands to living and working in a drab environment. As for the lighting market in existing buildings, it is so gigantic that a sale of modernized lighting to only one out of ten should jam every company with orders.

Sporadic, disorganized and half-way measures will never capture this market.

We must inform, educate and sell tens of millions of potential customers. In reaching such numbers, many other industries have the benefit of thousands of sparkling stores for direct contact of prospects. Neither the commercial-industrial nor the residential industry has this type of merchandising power.

We must convert our prospects into buyers by an enormous publicity, educational and marketing program to create understanding and demand among architects, builders, decorators, owners and managers of all types of buildings.

A billion-dollar industry should have a \$100,000 public relations program alone. Promotion and educational programs should be of similar size. Other phases of joint activity should be equally adequate to the task and the opportunities.

But we shall never develop these tools, so essential in an economy which demands association activity for every industry, until we unite our efforts. So long as industry leaders bury themselves in their own offices—or, at most, in their own segments of the industry—their own problems will get more difficult in running their own businesses. Too many of these problems can only be solved when leaders step out into the industry field to work together.

The type of association you suggest could be kicked off in one afternoon if a dozen industry leaders got together in a hotel room to discuss concrete action to meet their common problems. It is true, a great deal of additional follow-up would be needed, but it would be worth the price.

We cannot have a big industry unless we have big men. I believe such men potentially exist in our industry and eventually they will take leadership along the lines you propose.

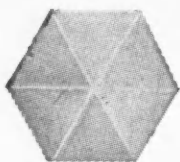
Keep up the good work!

Sincerely yours,
Ted Cox, Managing Director
American Home Lighting Institute

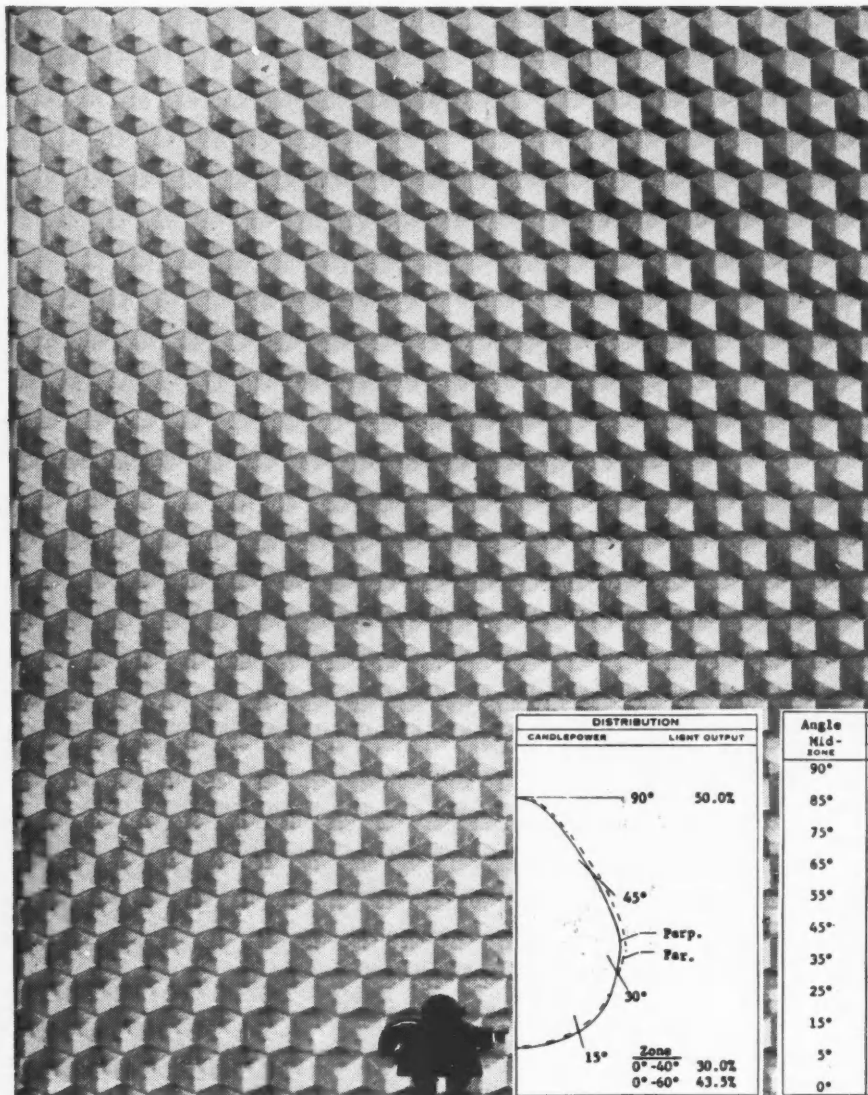


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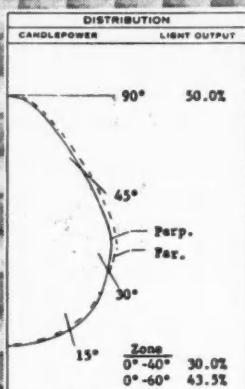
announcing the New EXTRU-LITE® Pattern **R-7**



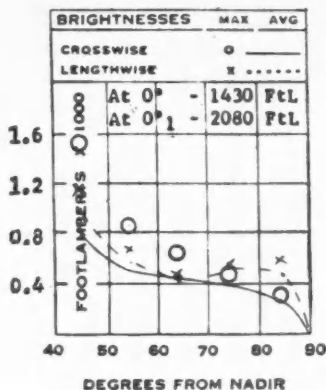
our famous plastic low brightness lensware — NOW extruded in a Brand NEW PATTERN.

Pattern R-7, with optically engineered hexagonal pyramids, permits the light to enter at all angles from the light source. It diffuses and refracts the light onto the work surface with a low brightness that is highly desirable for all types of visual tasks.

This 6-sided prismatic pattern controls, directs and reflects the rays to provide a glareless, more uniform light distribution.



Angle Mid- zone	MID-ZONE CANDLEPOWER					LUMENS
	HORIZONTAL ANGLES					
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90°	0		0		0	
85°	40.2		40.2		25.3	40
75°	127		125		96.9	125
65°	176		200		179	188
55°	317		313		279	272
45°	653		620		554	474
35°	1003		1000		970	623
25°	1177		1198		1196	551
15°	1281		1293		1301	365
5°	1334		1335		1338	127
0°	1341		1341		1341	



IMPORTANT! Superior Advantage of Pattern R-7 over other hexagonal shapes: The secret of positive light control is in the raised prisms—it's outstanding in more ways than one.

Available immediately from stock up to 24" wide in Polystyrene or Acrylic.

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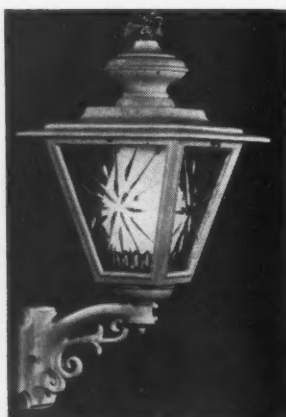
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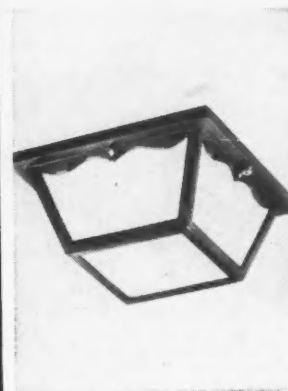
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No. 804



No. 503



No. 608



No. 704

Write for our catalog.

FRANK DINI CO
ROUTE 17, LODI, N. J.
HUBBARD 7-6305

CATALOGS & BULLETINS

**Available free to readers
of Lighting upon request**

DEL-VAL HOME FIXTURES—A portfolio describing fixtures for the home is available from Del-Val Manufacturing Co., 519 W. Huntingdon St., Philadelphia 33, Pa. Described are fixtures for every room, plus lanterns, exit lights, swivels, pulleys, etc.

Write No. A-101 on reply card, page 21

MINUTE-MOUNT FIXTURES—A catalog of budget lighting fixtures has been issued by Minute-Mount, a division of Progress Manufacturing Co., Castor Avenue and Tulip St., Philadelphia 34, Pa. The 16-page booklet contains color illustrations of a wide range of fixtures.

Write No. A-102 on reply card, page 21

UNION WEATHERBEST FIXTURES—Union Insulating Co., Parkersburg, W. Va., has issued a four-page bulletin describing and illustrating Weatherbest outdoor fixtures, which are available with a lustrous finish in textured brass or aluminum.

Write No. A-103 on reply card, page 21

SHEFFIELD PLASTIC DIFFUSERS—A pocket folder of several data sheets for plastic diffusers is available from Sheffield Plastics, Inc., Sheffield, Mass. The data sheets describe and illustrate various applications of plastic for fluorescent diffusers, etc.

Write No. A-104 on reply card, page 21

VIRDEN DYNAMICS LINE—A 20-page, full color catalog describes the new Virden Dynamics line of incandescent fixtures designed for offices, lobbies, lounges, motels, restaurants, etc., and is available from Lighting Dynamics, 6103 Longfellow Ave., Cleveland 3, Ohio.

Write No. A-105 on reply card, page 21

E-LITE IMPORTED FIXTURES—E-lite Company, Inc., 111 W. 22nd St., New York 11, N. Y., has issued catalog F-21, a 72-page publication showing imported crystal, bronze, and wrought iron fixtures, wall brackets, and hall lights.

Write No. A-107 on reply card, page 21

ROYAL LAMP STARTERS—Royal Products Co., Inc., 19-21 Grain St., Newark 7, N. J., has issued a bulletin on its line of fluorescent lamp starters. Catalog numbers and prices are included. The bulletin emphasizes the new color packed cartons.

Write No. A-108 on reply card, page 21

HOLOPHANE BANK LIGHTING—Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y., has issued a new brochure on bank lighting, which contains photographs taken of nine different installations. The Holophane consulting service is discussed.

Write No. A-109 on reply card, page 21

FLUORESCENT AND INCANDESCENT FIXTURES—Numerous booklets covering commercial, residential, and industrial lighting fixtures are included in a new illustrated catalog from L&P Lighting, P.O. Box 157, Olive Branch, Miss.

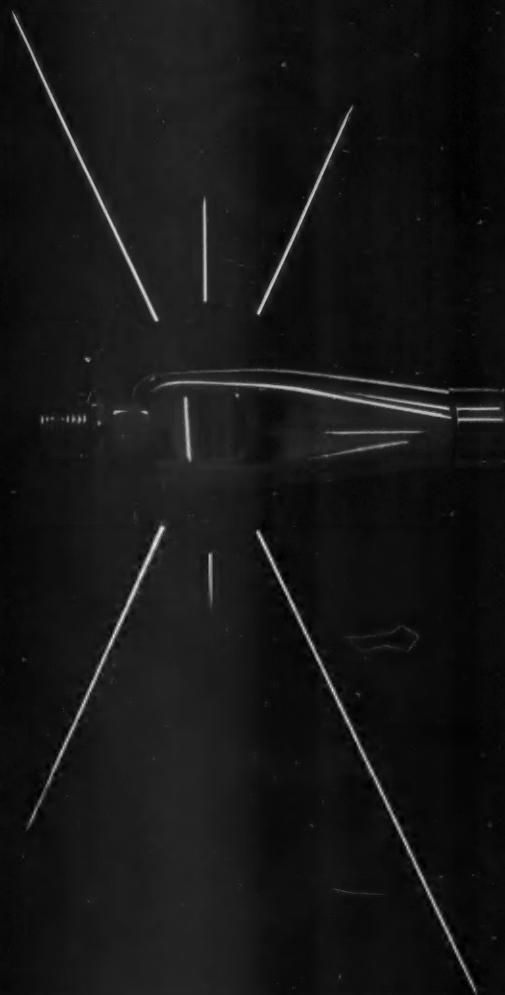
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Ward *SELF-ADJUSTING SWIVEL*

It automatically
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The most important single
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THESE
ELEGANT,
NEW
GERINGER
FIXTURES"**

Here are two profit-proven pace-setters that are winning rave reviews from lighting dealers and jobbers coast-to-coast. Sales are phenomenal! No. 3405-PB on top is a 5 light, polished brass beauty with hob-nail shades. Comes in antique brass, antique copper in unlimited variations, 3 and 1 light ceiling and matching wall bracket (No. 3407-PB) shown on right. Retail about \$57.00.

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WESTINGHOUSE LUMINAIRES—A six-page publication from the Westinghouse Electric Corp., Lighting Div., Edgewater Park, Cleveland, Ohio, describes the company's line of type SF surface-mounted fluorescent luminaires, and shows typical applications.

Write No. A-201 on reply card, page 21

LEADER ANTIQUE FIXTURES—Leader Lamp Manufacturing Co., 476 Broome St., New York 13, N. Y., has issued supplement No. 5 to catalog No. 39, which describes a variety of antique style fixtures, including flush- and chain-mounted styles.

Write No. A-202 on reply card, page 21

LEVITON WIRING DEVICES—Catalog No. 60 and new product bulletins available from Leviton Manufacturing Co., Inc., Brooklyn 22, N. Y., cover the company's complete wiring device line. The 100-page booklet contains illustrations and circuit wiring diagrams.

Write No. A-203 on reply card, page 21

PAR QUARTZ LAMP UNITS—A brochure from the Par Light Manufacturing Co., Milan, Ill., introduces the company's new quartz lamp units, with both 500-watt, 120-volt and 1,500-watt, 277- or 240-volt lamps. Diagrammed specifications are included.

Write No. A-204 on reply card, page 21

GUTH LUMINOUS CEILINGS—The Edwin F. Guth Co., 2615 Washington Ave., St. Louis 77, Mo., has published an eight-page brochure on its new two- by four-foot module Gratelite luminous ceilings. Included are photos of existing applications.

Write No. A-206 on reply card, page 21

SPERO FLOODLIGHTING HANDBOOK — Spero Electric Corp., 20500 St. Clair Ave., Cleveland 17, Ohio, has issued a new handbook on floodlighting which covers the selection, specification, and installation of floodlights in a variety of applications.

Write No. A-208 on reply card, page 21

ARTOLIER LANTERNS—Over 200 lanterns for indoor and outdoor applications are described in the all-new master catalog released by Artolier Corp., 141 Lanza Ave., Garfield, N. J. Finishes and specifications for each lantern are included.

Write No. A-209 on reply card, page 21

HOWARD SHADES, BULLETS—The latest in aluminum shades and bullets for lighting fixtures are featured in a new catalog published by Howard Metal Products Co., 92-26 180th St., Jamaica, N. Y. Complete dimensions on each item are included.

Write No. A-210 on reply card, page 21

GLOBE FIXTURE LINES—A new, 72-page full-color catalog of the company's complete range of lighting is now available from Globe Lighting Products, Inc., 1710 Flushing Ave., Brooklyn 37, N. Y. Residential, decorative, public area and architectural products are shown.

Write No. A-211 on reply card, page 21

GOTHAM LUMINAIRES—A 12-page brochure from Gotham Lighting Corp., 37-01 31st St., Long Island City 1, N. Y., illustrates fluorescent and incandescent luminaires for architectural application. Downlights, accent lights, and recessed troffers are covered.

Write No. A-212 on reply card, page 21

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TIME IN HISTORY**

2½ x 5 FT. LOUVER PANEL

Luxury lighting at definitely lower installation costs. Designed for today's popular 10 x 10 building module, American's new 30 x 60" louver is readily adaptable to any module.

Now you can offer your customers more lighting ... better lighting ... with substantial savings in installation costs! With American's new and exclusive 2½x5-ft. louvers, less structural work is needed because each louver covers a larger area than others providing larger areas of uninterrupted light.

These oversize louvers are of sturdy, deep-cell styrene construction and present 45° x 45° shielding. With less structural work and supporting trim needed, they're ideal for continuous runs and offer a wide variety of installation patterns. Specify American's new 2½x5-ft. louvers for suspended ceilings, in particular ... in new or remodeled construction. Here's the modern glare-free way to adequately illuminate large areas at lower cost than ever before thought possible!

Other louver sizes—

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portable lighting

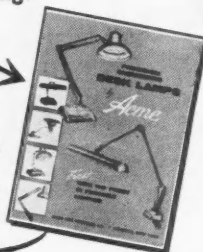
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FAST SELLING
DESIGNS**

The completeness of the ACME line enables you to offer portable lighting for office, industry and home. ACME's portable lamps are carefully designed for the best possible lighting characteristics and are skillfully manufactured to assure customer satisfaction and repeat sales. **SELL MORE . . . EARN MORE** with ACME Portable Lighting.

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catalog and
discount
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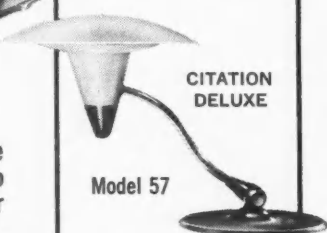


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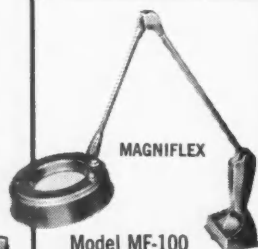


Model 404-G

U.S. PATENT NO. 2,665,870



Model 57



Model MF-100



Model 2002

NEO-RAY DIFFUSERS—Neo-Ray Products, Inc., 315 E. 22nd St., New York 10, N. Y., manufacturers of fixtures and ceilings, has published fluorescent lighting catalog No. 12A. The catalog features all modular sizes and types of plastic and metal diffusers.

Write No. A-501 on reply card, page 21

RUBY OIL LAMP REPRODUCTIONS—The Ruby Co., 129 W. 27th St., New York, N. Y., announces the publication of its new 1961 catalog which shows the complete Ruby line of authentic oil lamp reproductions, illustrated in full colors.

Write No. A-504 on reply card, page 21

CIRVAC LIGHTING LOUVERS—A six-page folder on Circlgrid, the new rigid, non-burning vinyl louver for lighting applications, is available from Cirvac Plastics, Box 655, Erie, Pa. The folder contains complete mechanical and engineering data, and specifications.

Write No. A-505 on reply card, page 21

ACME PORTABLE LAMPS—Bulletins are available from Acme Lite Products Co., Inc., Congers, N. Y., describing their complete line of desk and portable lamps. Included is information on the counterbalanced swing type units and the fluorescent inspection lamp.

Write No. A-506 on reply card, page 21

LIGHTOLIER FIXTURES—The 96-page style book from Lightolier, Inc., Jersey City 5, N. J., includes a wide selection of fixtures and lamps of every description for indoors and outdoors. The booklet serves as basic guide for decorating with light.

Write No. A-507 on reply card, page 21

WESTINGHOUSE HIGH-EFFICIENCY LAMPS—A four-page booklet now available from the Westinghouse Electric Corp., Lamp Div., Box 388, Bloomfield, N. J., describes and contains technical data on the company's new high-efficiency fluorescent lamps.

Write No. A-508 on reply card, page 21

PROGRESS BUILDING PRODUCTS—To introduce the most powerful and inclusive building products line in its history, Progress Manufacturing Co., Inc., Castor Ave. & Tulip St., Philadelphia 34, Pa., is distributing its all-new building products catalog.

Write No. A-509 on reply card, page 21

DINI ALUMINUM FIXTURES—A catalog of outdoor lighting fixtures of cast aluminum is offered by Frank Dini Co., Inc., Rt. 17, Lodi, N. J. Lanterns decorated with various figures, as well as post, wall, and ceiling fixtures are included; all designed in Italy.

Write No. A-510 on reply card, page 21

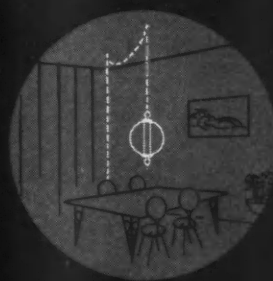
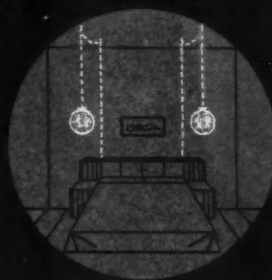
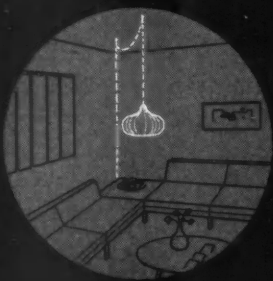
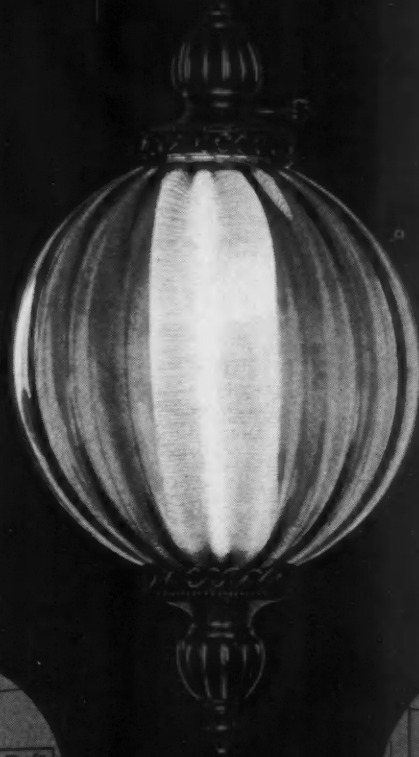
LITECRAFT FIXTURES—A new four-page brochure from Litecraft Manufacturing Corp., 100 Dayton Ave., Passaic, N. J., describes the Decathlon series of fixtures for school and office use. Included are candlepower distribution curves and dimensions.

Write No. A-511 on reply card, page 21

DAFFORN BALLASTS—A full line of ballasts is included in the new catalog now available from Dafforn Transformer Co., 1901 North Clybourn Ave., Chicago 14, Ill. Ordering data are included for single lamp, finger type, germicidal lamp, and plug in type ballasts.

Write No. A-512 on reply card, page 21

SWAG-LITE



"SWAG-LITE"...an exciting new advance in lighting elegance, a portable ceiling fixture that is adaptable to all areas, simple to hang, just plug in to any outlet. Presented in a full range of decorator styles spanning provincial to contemporary, the portable "Swag-Lite" is quality produced by Lightcraft of California at moderate prices for volume sales. To guarantee distributors a full share of this newly created market, Lightcraft of California has designed a unique full-color "Swag-Lite" floor display unit. This invaluable merchandising display, available free, will be included with your first shipment. Qualified distributors are invited to write for additional information.



1600 WEST SLAUSON AVENUE
LOS ANGELES 47, CALIFORNIA

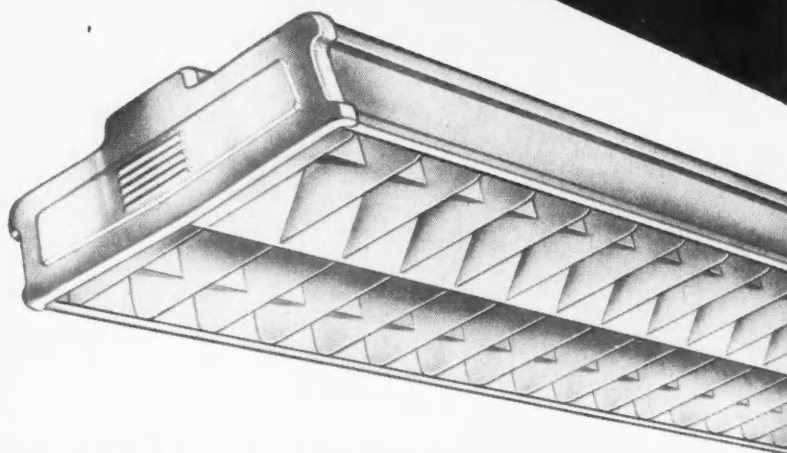
OF CALIFORNIA

it's the finish that counts!



GUTH ACRYLIC LIGHTING FIXTURE FINISH

*stays
whiter
and cleaner
longer*



Unless you specify acrylic-base finish for your fluorescent fixtures (at no extra cost!), you are handicapped like a racer with brakes on.

Brilliant Acrylic finish always looks like new. It stays sparkling white longer — is easier to clean (dirt and dust can't embed itself in this 175% harder finish) — is tougher and resists to chipping and scratching — and discolors less when exposed to ultraviolet.

Take a look at the chart below . . . and you'll always specify Acrylic finish for fluorescent fixtures. Don't be satisfied with less when you can have something twice as good — AT NO EXTRA COST!

THE EDWIN F. GUTH CO. 2615 Washington Blvd. Box 7079, St. Louis 77, Mo.



LIGHTING
since 1902

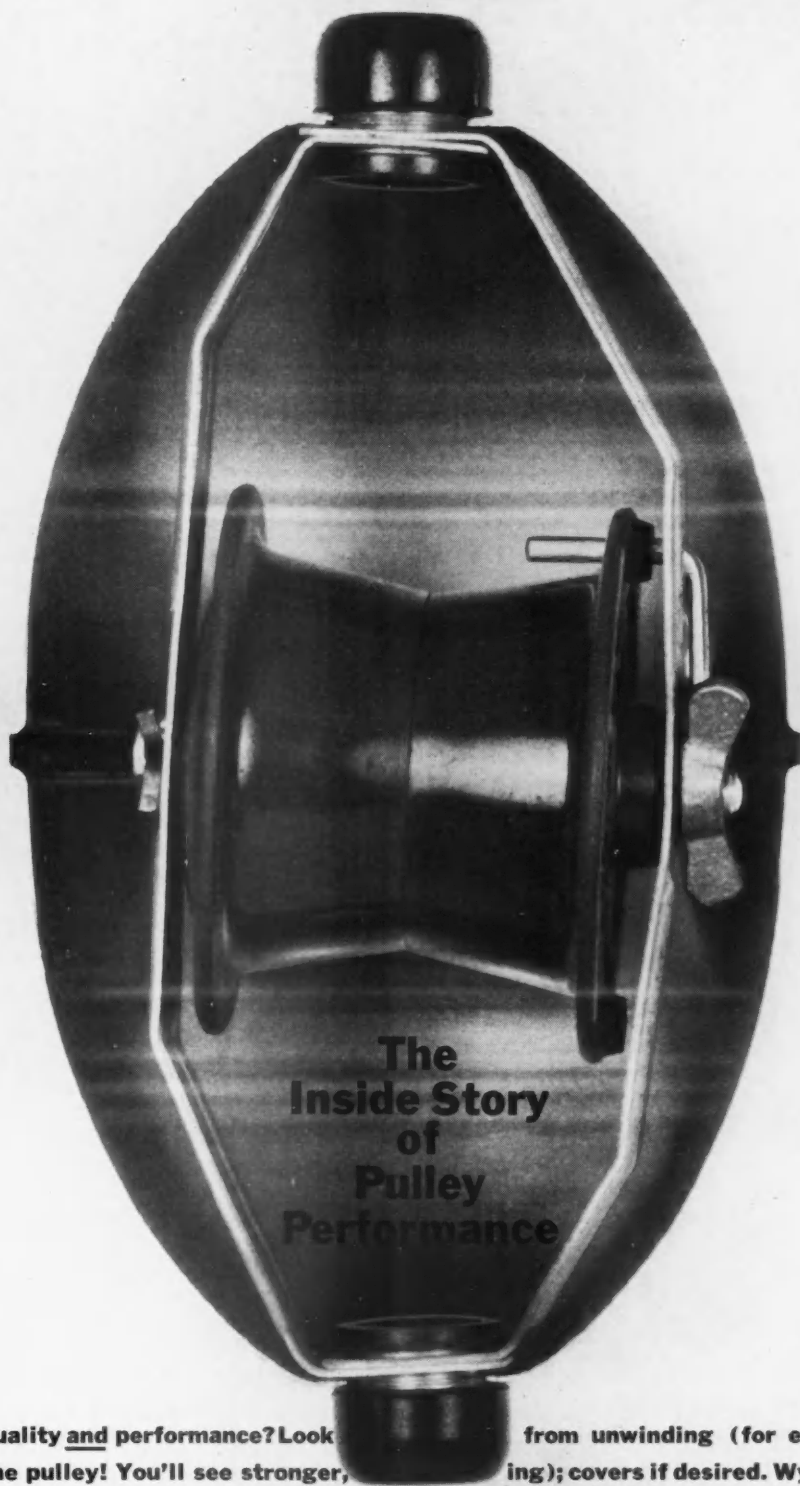
GOOD QUALITY FINISHES

NEW GUTH ACRYLIC FINISH

PERCENT BETTER

Adhesion To Metal	Humidity Resist.	Salt Spray Resist.	Fume Resist.		Stain Resist.	Grease Resist.	Hard- ness	Mar Resist.	Reoper- ated Adhesion	Baking Color Stability	Heat Resist. (1)	Color Reten. Exposed to Ultraviolet
6.0	8.5	8.5	7.5	6.5	5.0	7.0	8.0	8.5	8.5	7.5	5.0	6.0
9.5	10.0	9.5	8.5	9.0	9.0	10.0	22.0	9.5	10.0	8.5	9.0	9.0
18.75%	17.65%	11.76%	13.33%	38.46%	80.00%	42.86%	175.00%	11.76%	17.65%	13.33%	80.00%	50.00%

(1) 30 min. at 400° F.

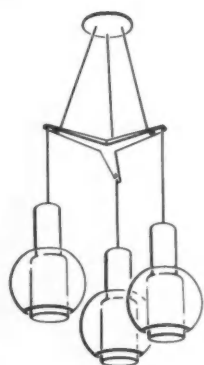


**The
Inside Story
of
Pulley
Performance**

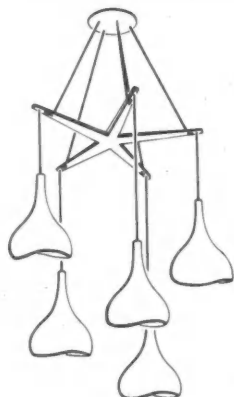
Looking for quality and performance? Look inside a Wythe pulley! You'll see stronger, superior one-piece unit construction; heavier beveled shaft that prevents spring breakage; convenient L shaped pin that keeps the spool from unwinding (for easier, faster wiring); covers if desired. Wythe Pulleys come "tray-packed" for production line assembly. Every unit is tested through 250 pulls. Meets UL specifications, and best of all they cost no more!

WYTHE
SALES COMPANY

600 WYTHE AVENUE / BROOKLYN 11, N.Y. / EVERGREEN 4-8055



Illus. Cat. No. B-103-Y
3-arm teak spreader
with three "Y" style
2-piece glass shades.



Illus. Cat. No. B-105-U
5-arm teak spreader
with five "U" style
glass shades.

PRESCOLITE'S EXCITING NEW

Holiday PENDANTS

A gay and colorful grouping of pendant forms designed and executed in hand-blown combinations of colored glass as well as exquisite satin opal glass. Metal shades come in striking baked enamel finishes set off with lustrous brass accents. All shades are suspended by white plastic cords, and are designed for mounting on 3¼" or 4" outlet boxes. Teak spreaders are of pure Bangkok Teak with hand-rubbed satin cabinet finish. You can create multiple combinations of forms and colors and stagger the heights to form focal points of interest for any interior. Write for complete catalog information.

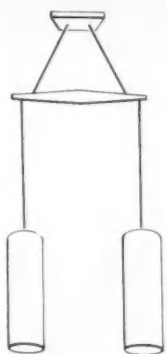
PRESCOLITE MANUFACTURING CORPORATION
2229 Fourth Street, Berkeley 10, California



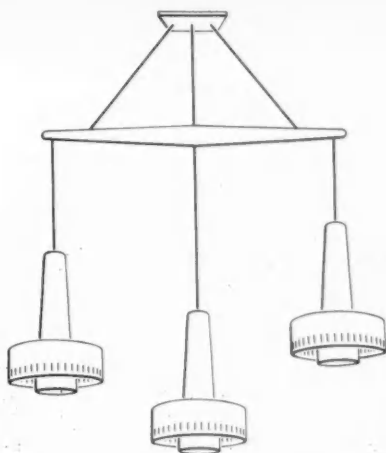
Illus. Cat. No. B-104-K
2-light teak spreader
with two glass shades.



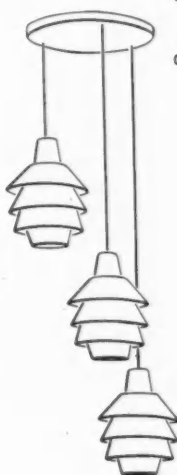
P
PRESCOLITE



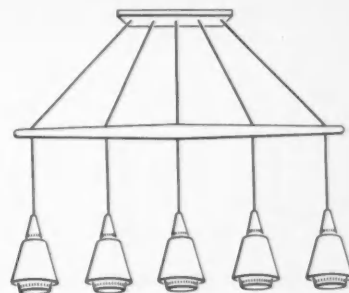
Illus. Cat. No. S-202-O
2-light teak spreader
with two "O" style
glass shades.



Illus. Cat. No. S-203-K
3-light teak spreader with three
2-piece "K" style shades.
White satin opal inner
glass, metal outer shades.



Illus. Cat. No. C-303-J
3-light, round, polished brass
canopy with white,
satin opal inner
glass and 3-piece
outer metal shields.



Illus. Cat. No. S-205-R
Rectangular metal canopy,
5-light teak spreader
with metal shades
finished in baked enamel
and polished brass.



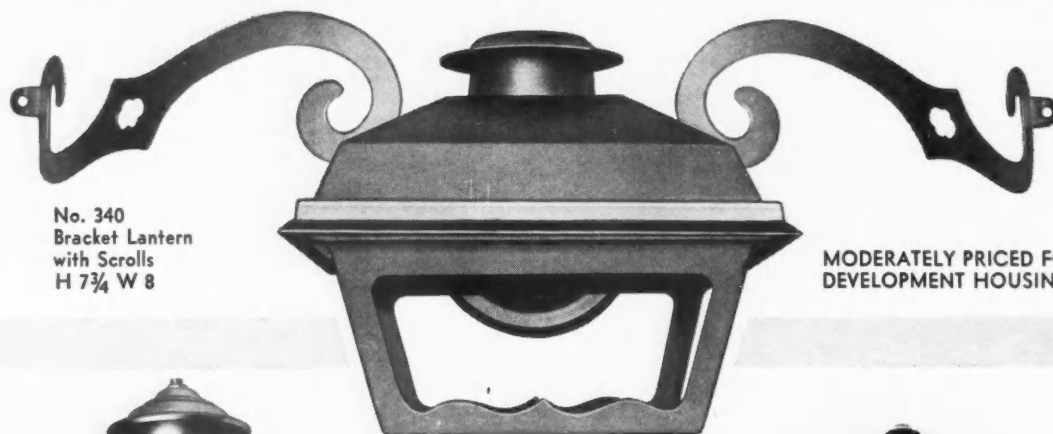
Illus. Cat. No. A-101-F
Single canopy, white
satin opal inner glass
and 2-piece outer metal
shields.

RICHTER

LANTERNS

THE FOREMOST MANUFACTURER OF
LANTERN PARTS IN THE COUNTRY

Available in Aluminum, Brass or Copper — Some models also made from coated steel.



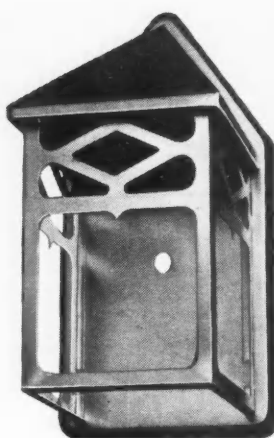
No. 340
Bracket Lantern
with Scrolls
H 7 $\frac{3}{4}$ W 8

MODERATELY PRICED FOR
DEVELOPMENT HOUSING



No. 84T
H 20 W 9
Front to Back
10 $\frac{1}{2}$

CURVED ROOF LANTERN
FOR BEVELLED GLASS



No. 288
H 8 $\frac{3}{4}$ W 4 $\frac{3}{8}$ D 4 $\frac{3}{4}$



No. 96
H 14 W 9

FLAT ROOF LANTERN
FOR BEVELLED GLASS

Stamping for the Lighting Trade since 1908



"LANTERN" CATALOG AVAILABLE ON REQUEST

CHARLES

RICHTER

METAL STAMPING & SPINNING CORPORATION
160 EAST FIRST STREET MOUNT VERNON, NEW YORK

INFORMATION CENTER



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and more details on any prod-
uct mentioned in this issue.**

Instead of writing a dozen different manufacturers for free literature and more information on products, or services, just insert on the cards below the appropriate key numbers of the items in which you are interested. These cards may be used to get information on products mentioned in the following departments (see Contents Page for page number):

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**Be sure to print or write legibly your name and address—
drop it in the nearest mail box and**

Lighting pays the postage!

OCTOBER, 1961

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Send this FREE LITERATURE (fill in key numbers):

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Send free information on these ADVERTISEMENTS:

Company.....	Page.....	Company.....	Page.....
Company.....	Page.....	Company.....	Page.....

My Name Position.....

My Company's Name

Address (number and street)

City Zone..... State.....

OCTOBER, 1961

Send free information on these NEW PRODUCTS and/or services (fill in key numbers):

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Send this FREE LITERATURE (fill in key numbers):

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Send free information on these ADVERTISEMENTS:

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Company.....	Page.....	Company.....	Page.....

My Name Position.....

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can help
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Will be Paid
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FIRST CLASS PERMIT NO. 582, SEC. 34.9, P. L. & R., ATLANTA, GA.

Lighting

1760 PEACHTREE ROAD, N. W.
ATLANTA 9, GEORGIA



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in the
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BUSINESS REPLY CARD

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Lighting

1760 PEACHTREE ROAD, N. W.
ATLANTA 9, GEORGIA



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LIGHT

UNIVERSAL FLUORESCENT BALLASTS—A new catalog covering extensive data on fluorescent lamp ballasts is now available from Universal Manufacturing Corp., 29-51 E. 6th St., Paterson 4, N. J. A wide variety of ballast types is covered by specifications.

Write No. A-601 on reply card, page 21

LANCASTER LIGHTING GLASSWARE—An illustrated portfolio with prices covering monstone diffusers, swimming pool lenses, shower light lenses, and other lenses for lighting is available from Lancaster Glass Corp., Lancaster, Ohio.

Write No. A-604 on reply card, page 21

PRECISION PHOTOCNTROLS—Adapting photocontrols to any outdoor lighting fixture is simplified for management and installation personnel with a new 24-page data file just released by Precision Multiple Controls, Inc., 233 Chestnut St., Ridgewood, N. J.

Write No. A-606 on reply card, page 21

VICKERS THEATER LIGHTING CONTROLS—A new bulletin issued by Vickers, Inc., Electric Products Div., 1815 Locust St., St. Louis 3, Mo., provides information on Vickers theatrical control products and systems which can be matched and unitized.

Write No. A-608 on reply card, page 21

SIDE-A-LITE BALL-JOINT SWIVEL—A brochure from Side-A-Lite, P. O. Box 2138, Alhambra, Calif., describes a new design swivel, a large non-wearing nylon bearing with positive adjustment in any direction. Straight, push-through wiring is possible.

Write No. A-609 on reply card, page 21

GLOBE FLUORESCENT TROFFERS — An illustrated 44-page handbook of recessed fluorescent equipment is available from Globe Lighting Products, Inc., 1710 Flushing Ave., Brooklyn, N. Y. The booklet features Miracle Door modular troffer units.

Write No. A-610 on reply card, page 21

INFROPAKE FLUORESCENT FILTER—Filter-sleeves which alleviate the problem of eyestrain, color discrimination, fading, or synthetic fiber degradation from fluorescent lighting are now available from Infropake Corp., 1015 Warehouse St., Greensboro, N.C.

Write No. A-611 on reply card, page 21

METALLIC ARTS FIXTURES—A combination of beauty and functionality in fluorescent fixtures is featured in a new catalog available from Metallic Arts of Northeast, Inc., 150 Broadway, Cambridge 42, Mass. A variety of shapes and colors is included.

Write No. A-612 on reply card, page 21

RUBY-PHILITE FIXTURE LINES—An illustrated catalog of slimline and rapid start fluorescents, as well as incandescent fixtures for industrial and commercial installations is now available from the Ruby-Philite Corp., 32-02 Queens Blvd., Long Island City 1, N.Y.

Write No. A-613 on reply card, page 21

PATE LAMPS AND LANTERNS—Several collections of lighting fixtures, ranging from early American type lanterns to modern bullet fixtures are included in 12-page catalog No. 7, published by Harry M. Pate, 9065 Washington Blvd., Culver City, Calif.

Write No. A-614 on reply card, page 21

TWO SPARKLING IMPORTS FROM JAY'S FABULOUS CHANDELIER COLLECTION

J 160

Radiant iridescent
gunmetal and gold



J 159

Cast bronze, hand
cut glass panels
and polished crystal,
amber or emerald
pendeloques



Now available — new catalog Supplements 61A and 61B. Address Dept. L461.

JAY LIGHTING MFG. CO., Inc.
New New York Showrooms—5 East 35th Street
Creators of the luxurious hand-crafted Coronet Series
DISTRIBUTORS IN PRINCIPAL CITIES

Only new Lumi-Flo air handling Troffers offer all these advantages

Benjamin has forged far ahead of the field with this latest advance in combination lighting and air handling fixtures.

These improvements are basic; it is to your advantage to give yourself the security of a thorough investigation before a final decision is made.

CLEAN CEILINGS WITH COMPLETE FLEXIBILITY

With Lumi-Flo you can be assured of ceilings which are esthetically clean without any visible ceiling obstructions. All you see is an attractive, well illuminated ceiling. With the new Benjamin Triple-Shell Lumi-Flo, you can light, cool, heat and ventilate interior areas through the same concealed troffer. When it comes to flexibility, Lumi-Flo can't be topped—you can design your building so that every 25 or 250 sq. ft. of floor area has its own air conditioning and ventilating. Better yet, when your requirements vary, you can have both in the same installation.

OFFERS MAXIMUM LIGHT EFFICIENCY

With Triple-Shell Lumi-Flo, the air supply is separated from the lamp chamber by an insulating air gap. Used on cooling or heating cycle, Triple-Shell construction permits heat dissipation to the plenum, yet prevents lamp chamber from over-cooling (which causes "pink-light") or over-heating (which reduces lamp efficiency).

Lumi-Flo offers the highest average operating efficiency possible through the normal cooling and heating ranges.

Lamp flicker and color variation caused by over-cooling are things of the past with Triple-Shell Lumi-Flo.

AN AIR CAPACITY TO MEET EVERY JOB CONDITION

With Triple-Shell Lumi-Flo, you can meet the exact requirements of any job, large or small. Two types of dampers engineered by Tuttle & Bailey give air-handling capacities from zero to over 200 CFM and combine with two basic air patterns to offer the best possible combination of capacity and distribution for your specific application.

FASTER, MORE ECONOMICAL INSTALLATION

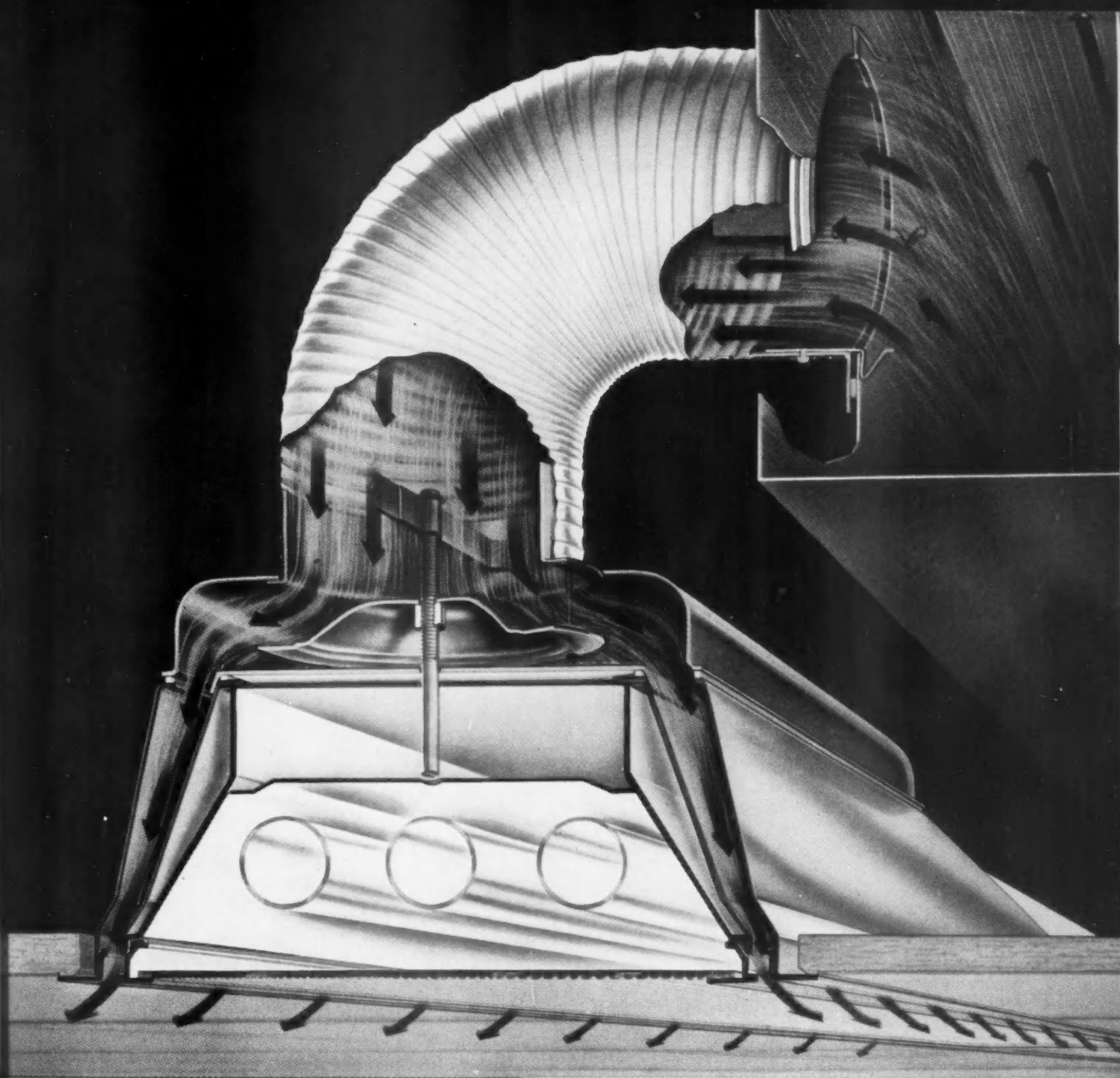
No cumbersome yokes—a swivel bar hanging device cuts installation time as much as 50%. Damper installation is simple and quick—one snap and a special locking device makes the damper a permanent part of the troffer. Special neoprene gasketing eliminates the possibility of air leaks.

DAMPERS ARE QUIET, EASILY ADJUSTABLE

Dampers are engineered by Tuttle & Bailey for quiet operation at all capacities. The dampers adjust quickly, easily—give precise adjustment over wide pressure ranges. Balancing is simplified.

Lumi-Flo is the only complete line listed by Underwriters' Laboratories for lighting, cooling and heating.





▲ Here is a cutaway view of the new Benjamin Triple-Shell Lumi-Flo troffer. See how the damper diffuses the air and directs it evenly to air manifolds on both sides of the troffer. Note also how the lamp chamber is separated from the air passageway at top and sides by an insulating air gap. This lets lamps operate at near their optimum design temperature—unaffected by the cooling or heating air flow.

◀ Here's what Triple-Shell Lumi-Flo troffers do for ceilings. The integrated lighting and air conditioning system is totally compatible in function and appearance with the handsome architecture of the Illinois Agricultural Building at Bloomington, Illinois.

Write today for new, 40 page Lumi-Flo Catalog

The most complete manual on Air-Handling Troffers ever compiled.



BENJAMIN
DIVISION

THOMAS INDUSTRIES Inc.
207 EAST BROADWAY
LOUISVILLE 2, KENTUCKY

Air Handling components by Tuttle & Bailey Division of Allied Thermal Corporation, New Britain, Connecticut.

LOOK

SB1515

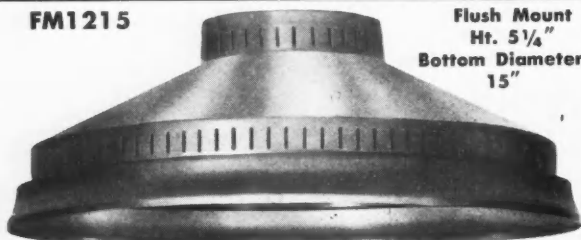
2 Piece Shade
Overall Ht. 8"
Bottom Diameter 17 3/4"



AT THE STYLING ...

FM1215

Flush Mount
Ht. 5 1/4"
Bottom Diameter 15"



AT THE QUALITY!

FM1209

Flush Mount
Ht. 4 1/2"
Bottom Diameter 8 3/4"



THEY'RE ALL FROM

SB1550

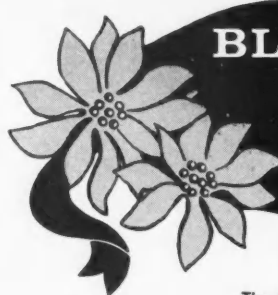
Ht. 9"
Bottom Diameter 17 3/4"



H O W A R D

METAL PRODUCTS CO., INC.

92-26 180 St. Jamaica 32, N.Y. Olympia 7-8500
Catalog Upon Request



BLACK

LIGHT touches
holiday displays with
the magic glow of
the season!

The fantastic beauty of black light adds a warm glow to indoor and outdoor holiday displays. Day or night, the commanding brilliance of fluorescent color makes black light displays stand out above all others.

After dark or where displays can be shaded during daylight, black light brings the magic of Christmas alive, for only fluorescent areas are visible. Thus, Santa can skim across the sky with his reindeer and sleigh without noticeable support...and candles (or little Rudolph's nose) can glow with realistic brilliance.

The only limit on black light versatility is the imagination of the user. Each black light display is completely covered with special BLAK-RAY inks. These vibrant daytime colors glow with magnificent brilliance with BLAK-RAY black light lamps at night... Order your fluorescent displays, fluorescent ribbon, and fluorescent plastic ball tree ornaments now from Ultra-Violet Products.

Make this a light Christmas for your customers by ordering now!

C-15 GIANT SANTA CLAUS

(4' wide by 6' high)

Never has St. Nick been more alive, more glowing with cheery good humor than in this lifelike display pattern.

Retail \$9.95



C-18 SIX LIFE-LIKE ELVES

(each 15" wide by 33" high) Santa's helpers wear their fluorescent brilliance with a happy-go-lucky air!

Retail \$9.95 set

C-16 SLEIGH & REINDEER (6' wide by 4' high)

There's real Christmas magic here, for with black light the sleigh and reindeer can appear to be flying through the night!

Retail \$9.95

C-19 HOLIDAY KIT. All glowing tributes to the holiday season! Giant Candle 4" wide by 39" high. Wreath 24" in diameter. Candy Cane 2 1/4" wide by 48" high. Poinsettia Blooms 24" wide by 14" high.

Retail \$6.95 set

G-15 BLACK LIGHT LAMP,

complete with 15-watt tube, filter and cord for operation on 110 volts, 60 cycle AC.

Retail \$39.95

G-30 BLACK LIGHT LAMP,

complete with 30-watt black light tube, filter and cord for operation on 110 volts, 60 cycle AC.

Retail \$49.95

One Ultra-Violet Lamp Lights Two Displays

(For best results, place lamp 2 to 3 feet in front of displays.)



ULTRA-VIOLET PRODUCTS, INC.

SAN GABRIEL, CALIFORNIA

Your lighting projects require the *safest* fluorescent ballasts you can specify . . . General Electric Bonus Line*. These ballasts are designed to protect against leaking, smoking, burning—all potential hazards or annoyances at end of life. They feature a unique, non-resetting thermal protection system—better than the best fusing—for unmatched, incident-free operation throughout their full, useful life. Put the fullest measure of lighting protection into your buildings. Write premium-quality General Electric Bonus Line ballasts into your lighting specifications.

*Trade-mark of General Electric Company

Progress Is Our Most Important Product

GENERAL  ELECTRIC

For a detailed engineering report on Bonus Line ballasts, contact your G-E Sales Engineer or write Section 403-03, General Electric Company, Danville, Illinois.



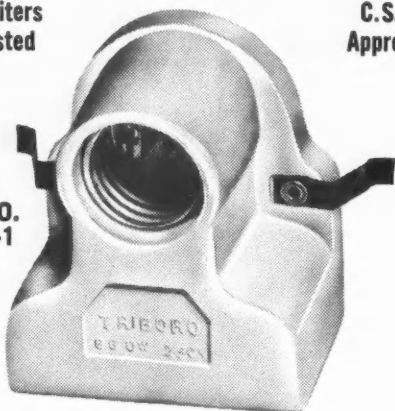
NEW...from TRIBORO RECESSED LIGHTING RECEPTACLES

With SNAP-IN SPRING
RATING 660W. — 250V.

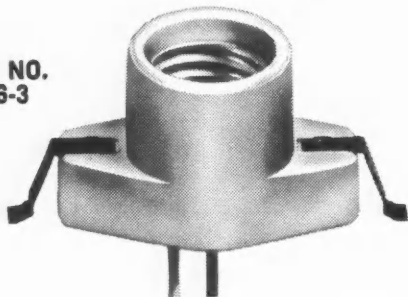
Underwriters
Lab. Listed

C.S.A.
Approved

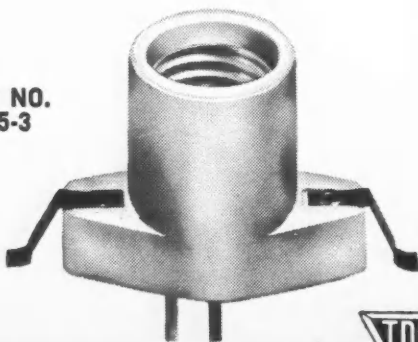
CAT NO.
200 A-1



CAT NO.
326-3



CAT NO.
325-3



Write today for complete
catalog and samples

TRIBORO
ELECTRIC CORP.

Waterbury & Ten Eyck Sts., Brooklyn 6, N.Y.
Phone HYacinth 7-3535-36

LEHROLITE FIXTURES—Lehrolite, Inc., 53 Parker St., Wallingford, Conn., has released their latest catalog, No. 29. It features a new series of tole dsignd lighting fixtures in addition to the company's traditional and contemporary fixtures of unusual design.

Write No. A-801 on reply card, page 21

G-E OUTDOOR BALLASTS—Bulletin GEA-7119A, a six-page booklet from General Electric Co., 1 River Rd., Schenectady 5, N. Y., contains tables of prices and data on the G-E full line of fluorescent lamp ballasts for outdoor applications, including wiring.

Write No. A-802 on reply card, page 21

DU PONT LIGHTING SHIELDS—"Lighting Shields Made from 'Monocite' Methacrylate Monomer," a new brochure from A-15526, Advertising Dept., E. I. du Pont de Nemours and Co., Inc., Wilmington 98, Del., tells how such panels can be used for varied effects.

Write No. A-803 on reply card, page 21

FLOODLIGHTING ESSENTIALS—A comprehensive outline of the essentials of efficient, economical floodlighting is given in 16-page bulletin 6175C, available from General Electric Co., 1 River Rd., Schenectady 5, N. Y. Vertical and horizontal lighting are covered.

Write No. A-804 on reply card, page 21

APPLETON INTENSO FLOODLIGHTS—The Intenso Econoflood line of commercial and industrial floodlights is covered in bulletin EFL-960, which has been recently published by the Appleton Electric Co., 1701 Wellington Ave., Chicago 13, Ill.

Write No. A-805 on reply card, page 21

K-S-H. PRISMATIC PANELS—K-S-H. Plastics, Inc., High Ridge, Mo., has available a new catalog sheet covering the white Opal K-4 and K-5 polystyrene prismatic lens panels. The sheets are a complete working tool for the architect and lighting engineer.

Write No. A-806 on reply card, page 21

LUMINOUS CEILINGS—Available from Luminous Ceilings, Inc., 3701 N. Ravenswood Ave., Chicago 13, Ill., is an illustrated, circular slide rule calculator which will be of particular interest to specifiers of luminous ceilings.

Write No. A-807 on reply card, page 21

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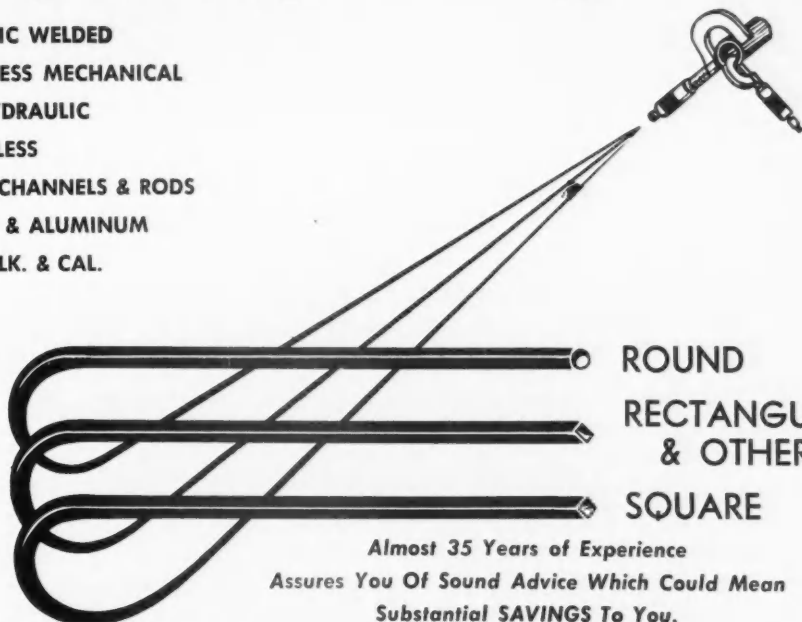
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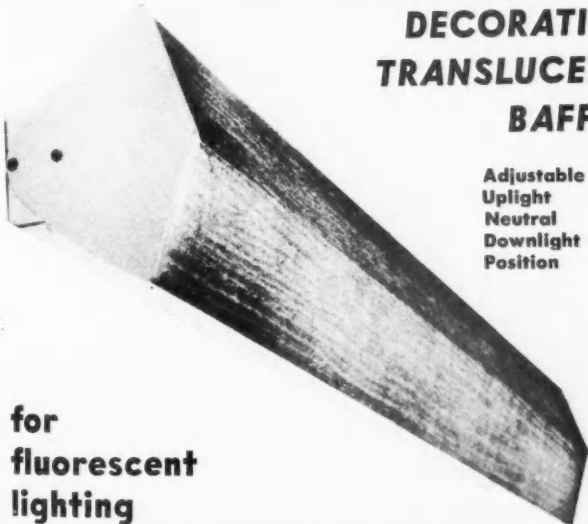
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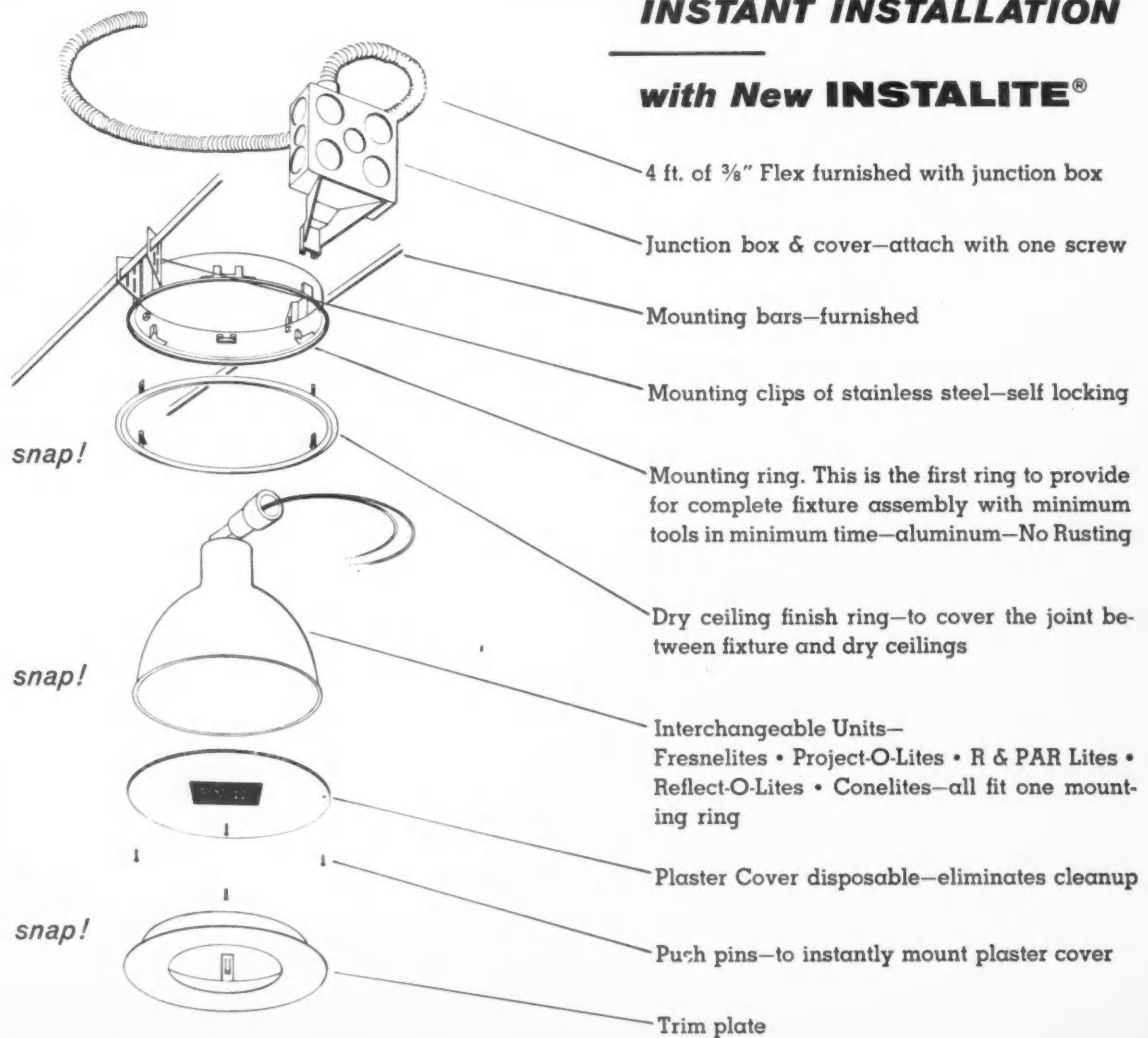


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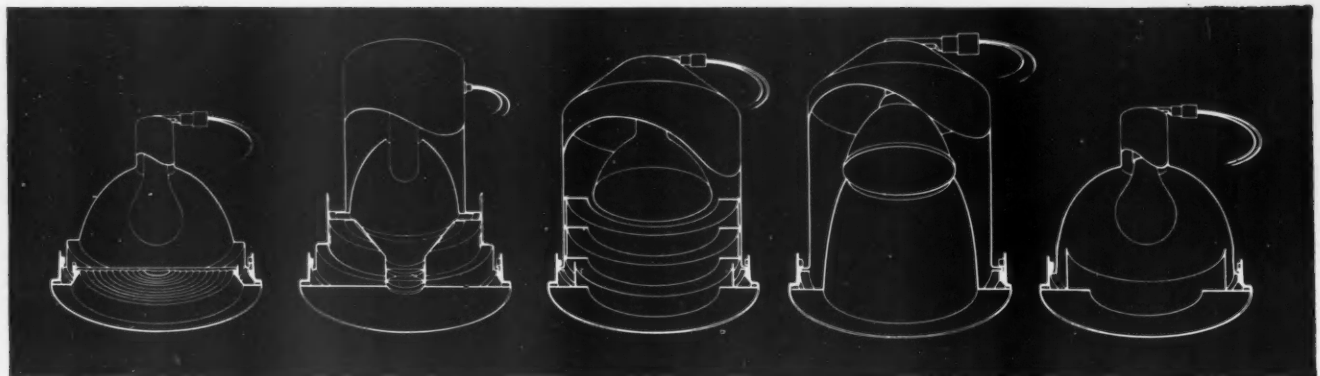
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Building showcases dramatic office lighting

Goal of the lighting
was to make the building
stand out
like a sparkling gem

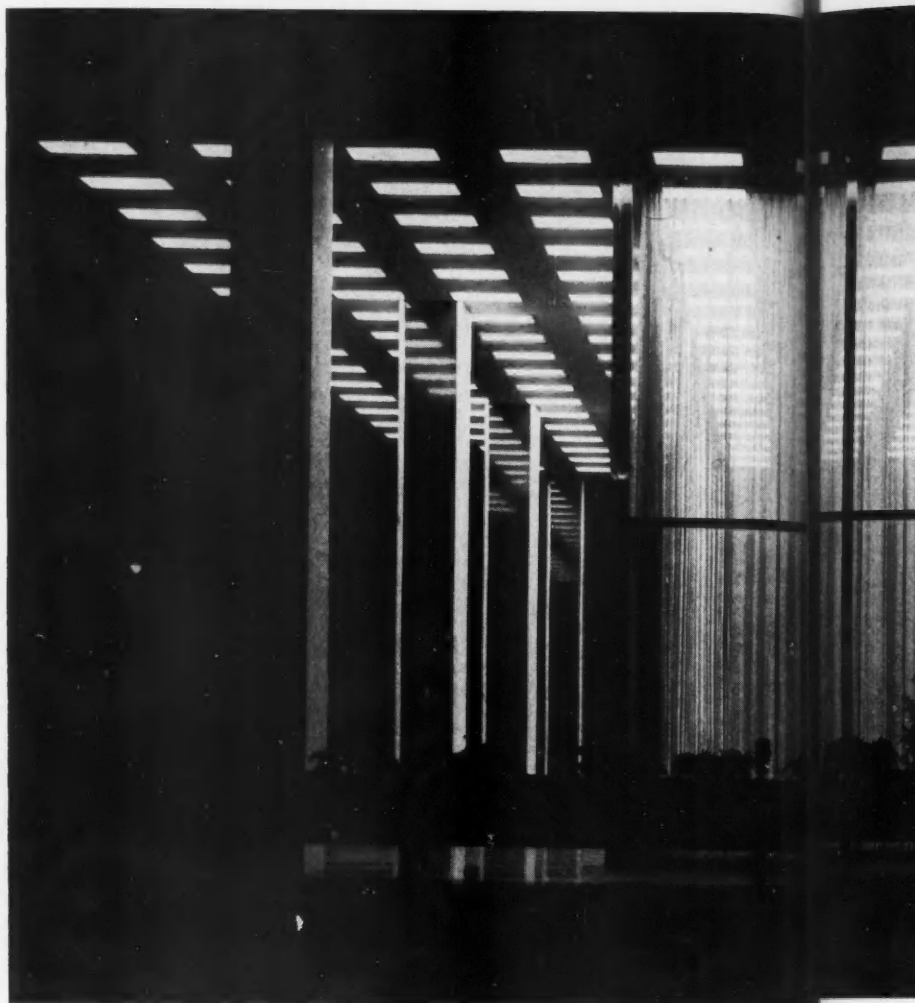
By Kenneth R. and Katherine MacDonald, Field Editors, San Francisco, Calif.

◆ How to efficiently and economically use lighting as a means of showcasing and dramatizing a 15-floor office structure which itself is spectacularly dramatic in appearance was the problem recently successfully met by Farrow-Dahl Beck, Inc., in completing a joint-venture electrical contract for San Francisco's new Bethlehem Building.

This newest addition to the Golden Gate city's growing collection of monumental downtown office buildings is a tower of black granite, white marble, and stainless steel trim. It was designed by architect Welton Becket to "typify the strength and dignity of steel."

The new multi-million dollar structure, which rises from the heart of San Francisco's financial district at Davis Street between California and Sacramento Streets, also is a modern "guinea pig" for structural-dynamic and seismological research.

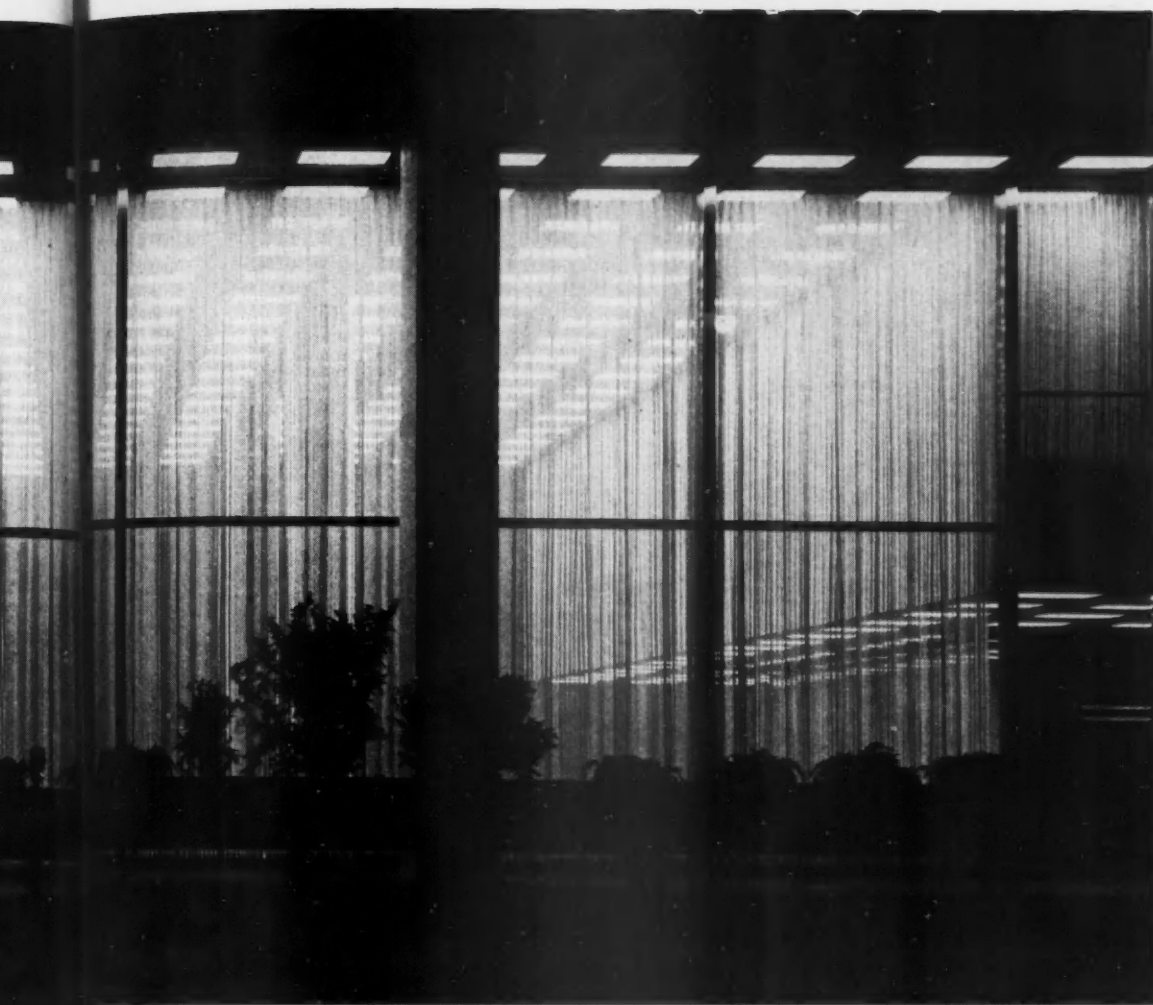
The building's 200-foot vertical Bethlehem steel girders were placed outside the exterior wall and encased in marble by the general contractors, Swinerton & Walberg. Exterior columns "cra-



Functional, efficient, up-to-date lighting in an office provides a decorative complement for panoramic view of San Francisco Bay and three landmarks: Yerba Buena Island, the bridge to Oakland, and the clock tower of the old ferry terminal.

Four-foot diameter round plastic diffusers light elevator lobbies on upper floors.





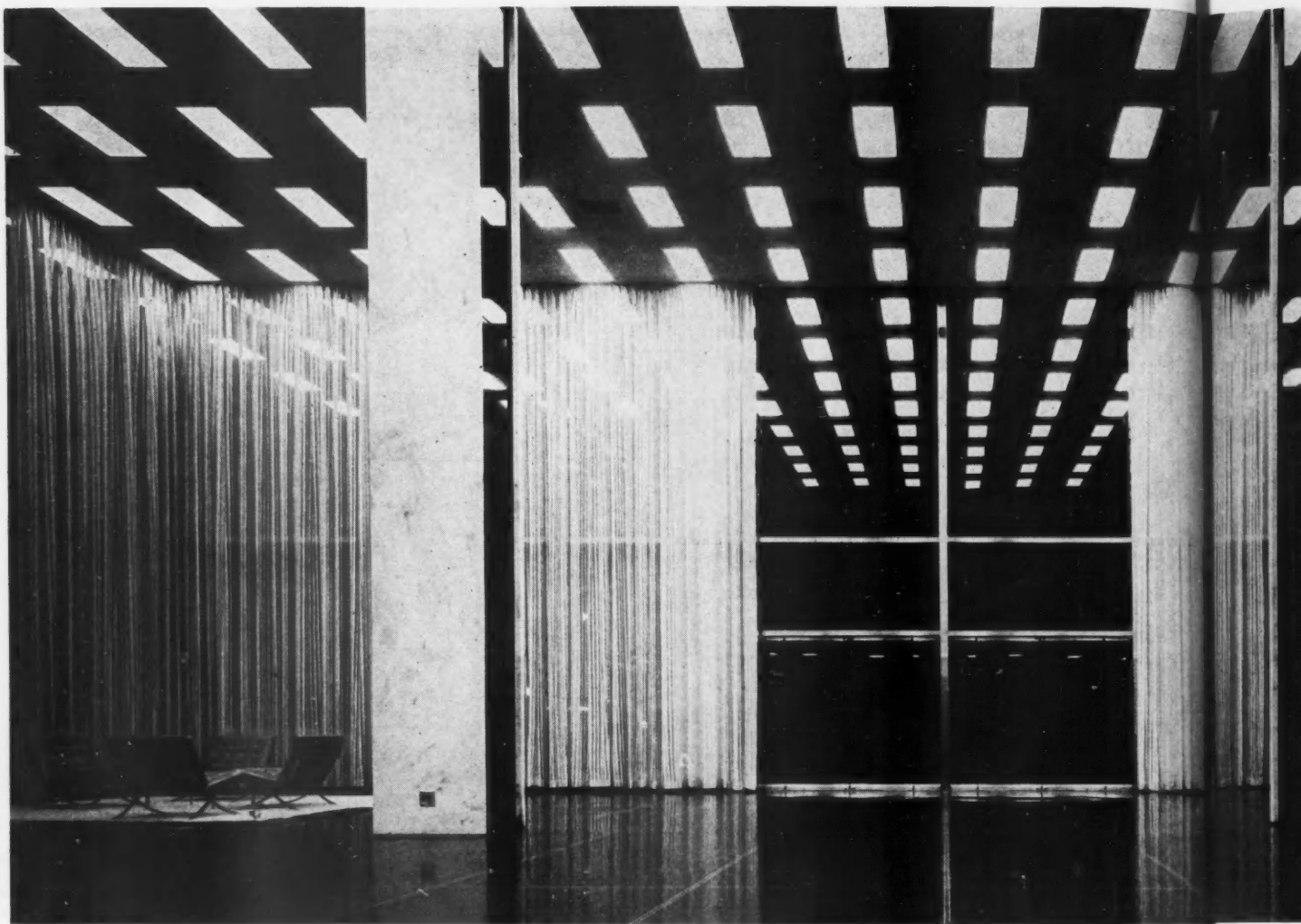
Elegance and beauty are exemplified by the lobby lighting which is continued outside to create a spectacular setting for the 15-story building.

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LIGHTING for OCTOBER, 1961



dle" the building outside, thus standing free of the exterior marble and glass walls.

"This architectural treatment," explains Dudley Deane, whose firm Dudley Deane & Associates served as the electrical engineers, "is different than that known to exist for any present office building anywhere in the world.

"The result," Mr. Deane continued, "is most dramatic and spectacular. The assignment of utilizing lighting to point up the spectacular character of the building thus was a most difficult one for all of us concerned with the electrical work."

The technical problem was to achieve 100-footcandle illumination in the loft area, 65 to 80 footcandles in the office areas, and to carry the interior lobby lighting pattern out through the glass front wall to the exterior.

"In effect," Mr. Deane explains, "what Bethlehem executives

wanted us to accomplish was to spotlight the structure and make it stand out like a sparkling gem without actually using spotlighting.

"We also were called upon to design a lighting modular system which would not be interrupted by placing partitions on any module and to apply modern lighting solutions to the normal auditorium lighting problem."

The lighting contractors solved all of these problems by making the 15 floors of the new Bethlehem building a "prime example" of recessed fluorescent lighting, utilizing Albrite fixtures as custom manufactured by the Fluorescent Fixture Company of California.

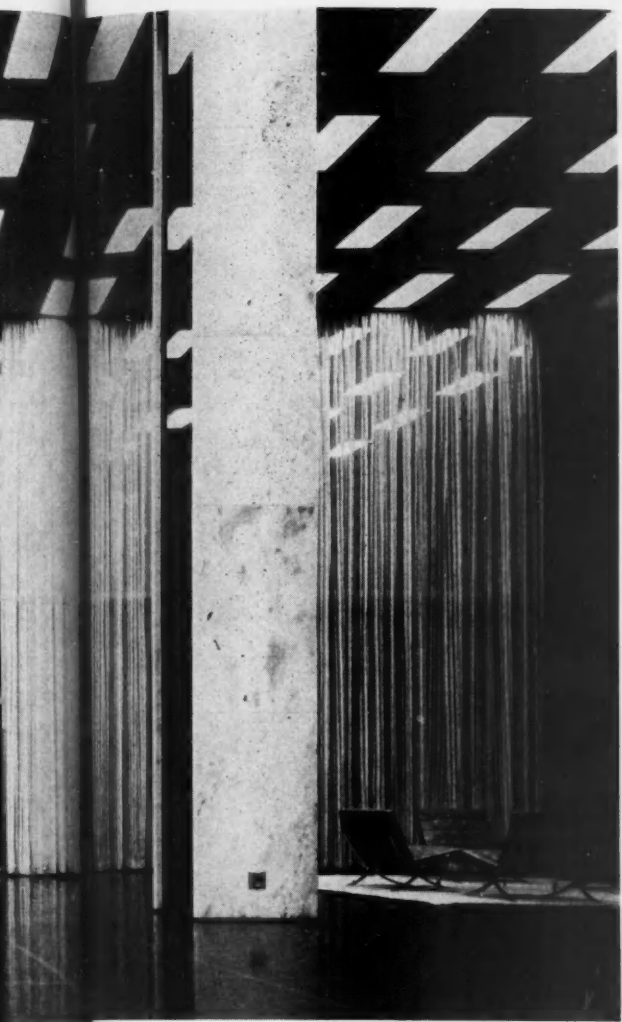
The fluorescent fixtures used throughout are 18- by 36-inch rapid-start two-lamp units designed for ease of accessibility without the use of tools for relamping or changing of ballasts.

Each fixture, which drops down on an extra length of flexible conduit, is quickly and easily removable for access to the ceiling space.

The modular system designed by Mr. Deane, working in close collaboration with the architects in Mr. Becket's San Francisco office, provides for placement of the fixtures with one fixture to each four-foot, six-inch by five-foot module.

"This," Mr. Deane explains, "provided the greatest possible flexibility in the placing of partitions for office space, without in any way interrupting the lighting system."

The fixtures, incidentally, contain Albalite diffusing glass and have very low brightness and glare factors. In addition, the direct appearance of the fixtures is soft and pleasing to the eye. They were all designed to give 100 foot-
(Continued on page 78)



Beautiful materials and furnishings, used tastefully, help the well-lighted lobby set the aesthetic theme of the building.



Good illumination was included in the ground floor elevator lobby.



The 18- by 36-inch fluorescent fixtures used throughout provide flexibility in the placing of partitions in office areas.



In general offices illumination ranges from 65 to 80 footcandles. Fixtures have very low brightness and glare factors.

Interchange gets high-level lighting

Mercury lamps provide up to 4.3 footcandles for important highway intersection

By George E. Toles, Field Editor, Hamburg, N. Y.

◆ A highly successful lighting system installation at Kingston, N. Y., may have a significant impact on planning for interchange lighting on New York State highways.

As a result of the Kingston installation, New York State highway planners are taking another look at interchange lighting needs, with emphasis on high-intensity mercury.

New York State lighting standards call for 0.8 to 1.0 footcandles of maintained light for interchange main travel lanes, a speci-

fication considerably below the level achieved by the Kingston interchange, which is designed to produce 4.3 initial footcandles of illumination for the key intersection—the entry of the New York Thruway arterial spur.

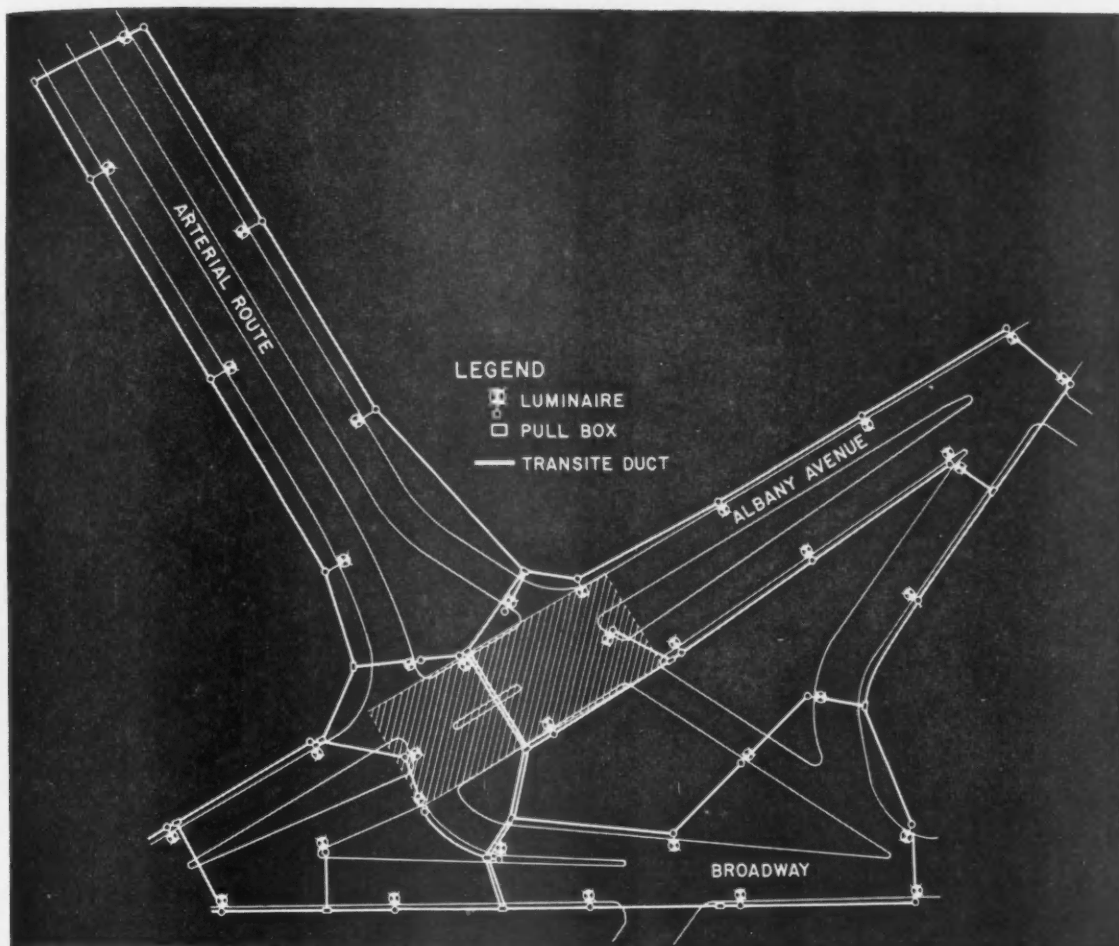
Utility and local State Department of Public Works division engineers had to present some persuasive evidence in support of their specifications before headquarters' specifiers finally agreed to the plan.

The designers were told that they were taking a calculated risk by pushing the plan. If the new light levels were found to be "too



Lighting makes usual multitude of directional signs found at interchanges less confusing, easier to read.





Thirty-seven mercury luminaires provide 3.3 fc in straightaway areas, 4.3 fc in center (shaded).



Motorists approaching the interchange from either 25-mph city streets or 50-mph highways get clear view of traffic.

LIGHTING for OCTOBER, 1961

bright" in the eyes of Albany, said the state office, future attempts to raise light levels would be blocked at the outset.

After the installation of the General Electric Form 400 luminaires, state officials and Kingston's Mayor Radel expressed gratification, both publicly and privately.

The new lighting, which was completed last year, has been under scrutiny since, and passed with flying colors, according to State Department of Public Works engineers George Turnes, K. G. Rauer, and James Spratt. They said that following the successful application of higher light levels to such an interchange, DPW standard-setters might be guided in future installations to raise lighting specifications.

Lighting plans for the new installation were completed in the latter part of 1958, but it was two years later before the G-E 400-watt, 20,000-lumen mercury vapor luminaires were installed.

The plans were drawn by R. L. Strickland, Central Hudson Gas and Electrical Company engineer.

The luminaires are mounted at strategic locations to produce the high-intensity bath of light for the center of the interchange, with staggered spacing as close as 25 feet.

On the straightaways, where a calculated initial footcandle level of 3.3 was the target, the 400-watt mercury lamps were staggered about 75 feet apart. The luminaires were mounted at 30 feet with a four-foot overhang.

Joe E. O'Connor, electrical contractor, erected the aluminum poles and projecting arms that hold the lights. The fixtures and wiring were installed by Central Hudson electricians.

New York State provided and installed the aluminum poles. The city pays Central Hudson for the energy, the fixtures, and maintenance charges.

Mayor Radel asserted the lighting was as good, if not better, than at any other similar intersection in the country. It is especially important, he said, because a large number of cars using the artery come from a 50-mile-per-hour speed highway into a city 25-mile limit zone.

Effective lighting makes small apartment look larger

Fixtures complement artistic decor and create spacious feeling

By Maurice Medcalfe, Architect, New York, N. Y.

◆ My plan was to create the visual effect of greater space when I redecorated my New York City one-room apartment (let's face it, it's still "one room" in spite of the realtor's garnished publicity).

First, spacewise, I felt the living room fell into the dining area and vestibule, because of the proportion of wall openings to these areas. A soroban beaded screen to the dining area physically cut off this area, yet allowed a borrowed view.

For the vestibule area, I removed an existing living room

closet door, and from a new ceiling track installed two floor-to-ceiling movable panels, which allow closet entry and can almost cut off the vestibule opening. In this fashion, the areas are more defined.

The furniture items are few, and their colors and the room colors cover white, beiges, bronze, reds, and charcoal.

I installed four eight-foot horizontally mounted light spans on three walls of the living room, individually dimmer controlled.

These would give general peripheral lighting or accent where or when needed. The down spot
(Continued on page 78)



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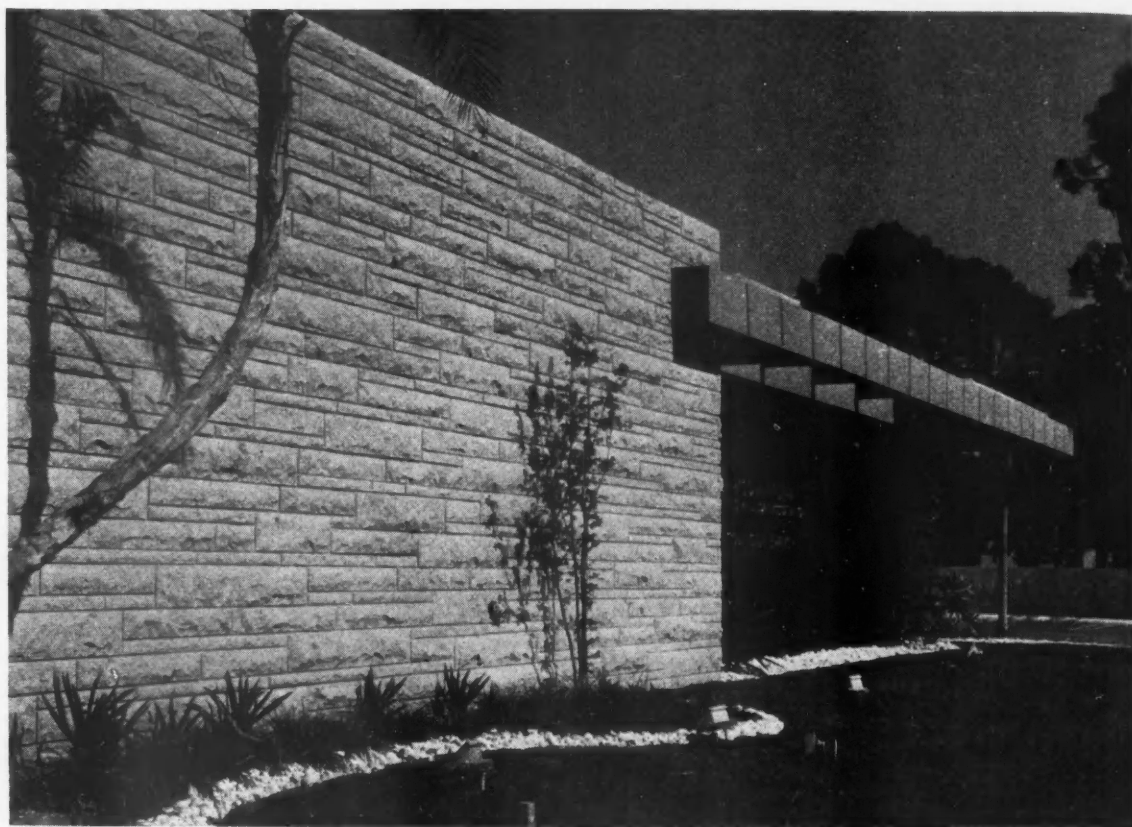


Lights focused
on the
beaded screen
have
variable intensity
so that the
planting area
can be
excluded from
or included in
the view.

Fixtures
arranged along
horizontal
light spans
on three walls
of the
living room
give peripheral
or accent
lighting.

Opposite page:
The down spot
over the
coffee table
is dimmer controlled
and six fixtures
above the sofa
provide attractive
backdrop
of illumination.



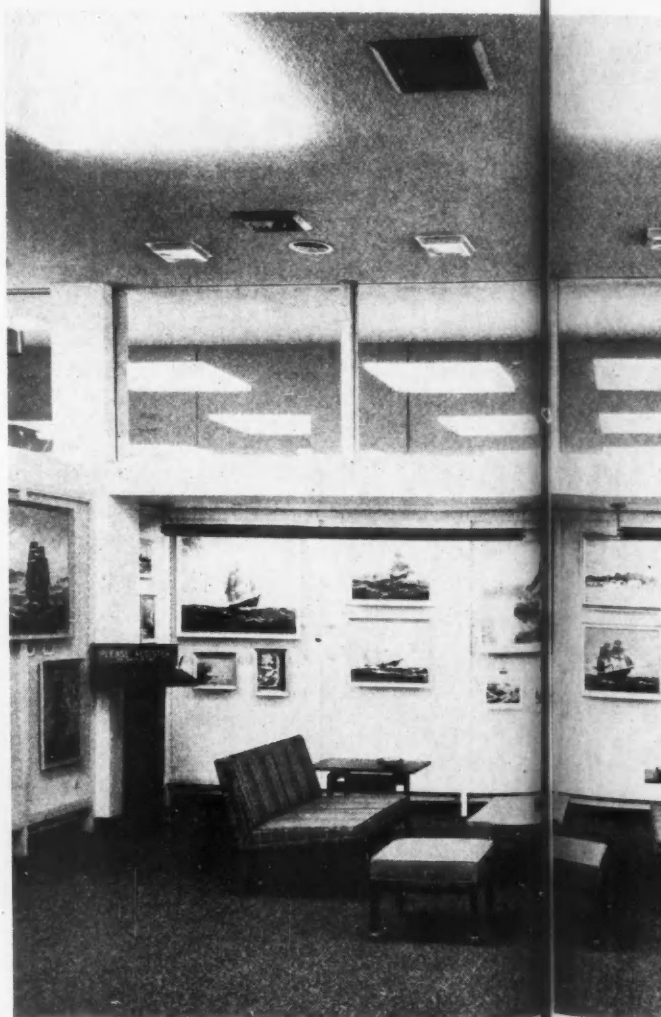


At night the contemporary facade is lighted by a group of 500-watt quartz units placed on the grass.



The ceiling above the tellers' stations can provide either 125 or 250 footcandles.

Lighting plays an important functional role in the community room and gallery.



Lighting for a financial institution

Tellers' stations receive 250 footcandles from luminous ceiling

By Harry J. Miller, Field Editor, Sarasota, Fla.

◆ The lighting installation at the new southside branch of Sarasota Savings and Loan Association in Sarasota, Fla., reflects the increasing tendency of architects and design engineers to coordinate several types of lighting fixtures to achieve see-ability along with the "homey" aura sought by today's financial institutions.

Installed by Willis Electric, of Sarasota, the lighting features illumination values well above the

new IES recommended levels.

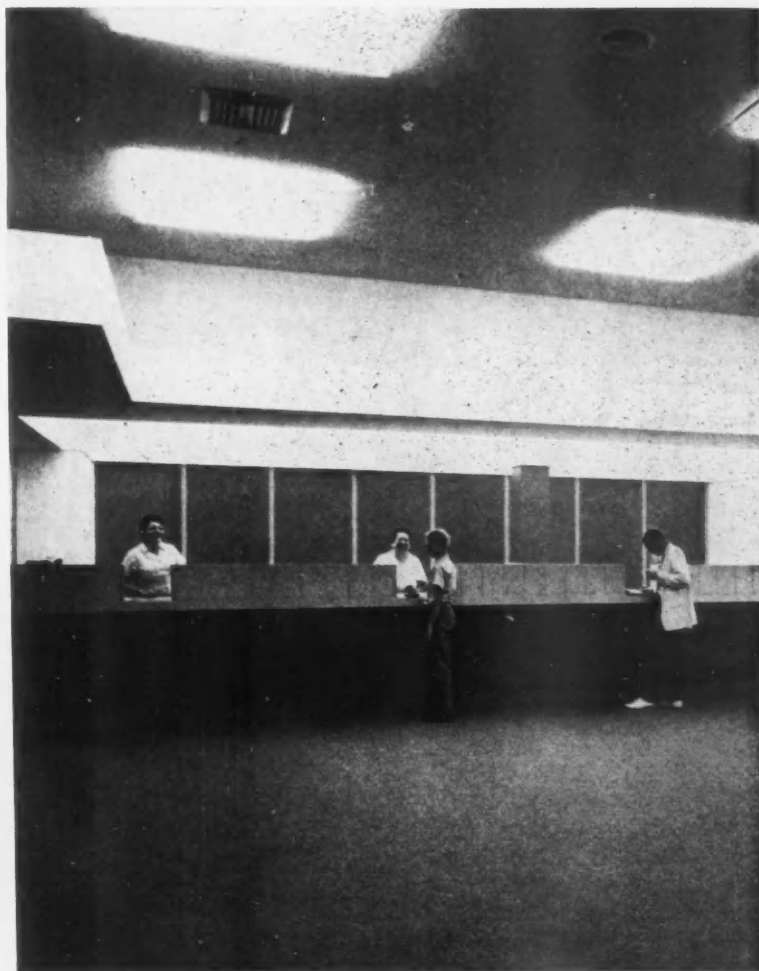
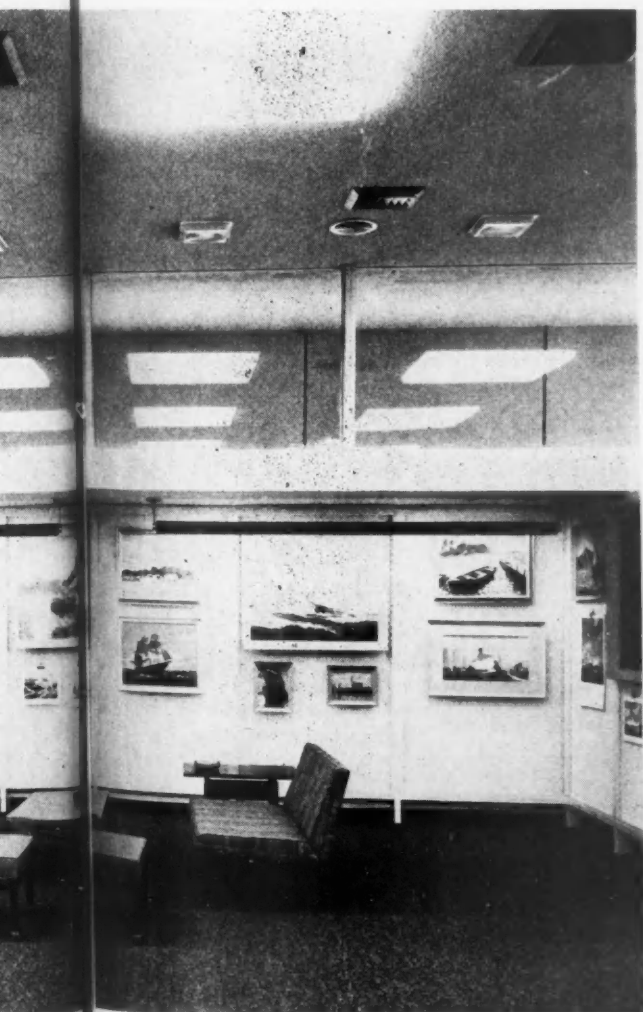
The Infilite luminous trackless ceiling over the tellers' stations provides a comfortable 250 footcandles. The effect is one of natural daylight indoors. The continuous rows of 40-watt rapid-start lamps are on 12-inch centers. Circuitry is so arranged that the rows of fixtures may be alternately switched to turn off every other one, to provide half of the 250 footcandles yet still maintain an even distribution of light on the surface of the luminous ceiling.

The 18 recessed fixtures, with dropped Plexiglas diffusers and utilizing four 48-inch rapid-start lamps, provide 65 footcandles in the public area. The perimeter fixtures—300-watt incandescent recessed, with dropped oval glass—make an attractive match for the fluorescent units. Each fixture is wired with a 25-watt night light to provide around-the-clock, low-level illumination.

Since it has become common practice for banking institutions to provide a room for civic group

(Continued on page 78)

ass.



Recessed fixtures with a dropped diffuser provide 65 footcandles.



A timer control insures that the large exterior sign will be visible all night to motorists driving past.

Lighting distinguishes garden-like

Close cooperation between florist, contractor, and utility produced

By William Simon, President, MAK Lighting Maintenance Co., Pittsburgh, Pa.

◆ A young man's idea that a flower shop need not have a supermarket atmosphere but should have a specialized look to emphasize special service has resulted in a highly effective lighting job in the Pittsburgh area.

Mort Silverblatt, owner of Mort Silverblatt's William Penn Flower Shop, sought assistance in the lighting design of his new location. In cooperation with Armand G. Zitelli, Duquesne Light Company illuminating engineer, and Bill Simon, president of MAK Lighting Maintenance Company, electrical contractor, a truly distinctive effect was created.

With Mr. Silverblatt's concept of a natural garden setting, it was imperative that modern lighting techniques be employed to attract attention, give proper color rendition, and create mood and atmosphere.

Since the general theme of the sales area is that of a garden, it was necessary to create the illusion of a sky. This was done artificially, and in so doing, the "sky" has control features that permit various levels of brightness. In addition, the sky also has certain color characteristics necessary to enhance the various floral arrangements.

To accomplish the artificial sky, a floating illuminated ceiling was installed of two- by four-foot plastic louvered panels having half-inch cube cells and 45-degree shielding. The panels are suspended on a T-bar suspension system 18 inches from the original ceiling, which was painted flat white for good reflection.

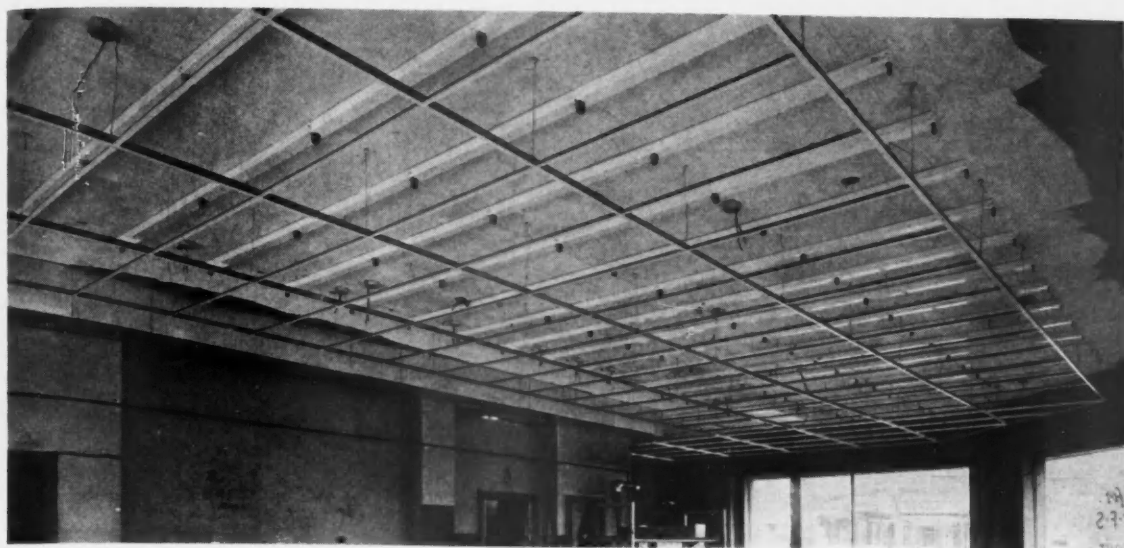
By using the floating system instead of installation of the ceiling from wall to wall, considerable saving of material and labor was affected.

Twenty-two rows of 40-watt, single - fluorescent, rapid - start

strips are mounted on the ceiling, spaced on two-foot centers. The lamps used are the latest natural white fluorescents, which were found to produce the most vivid and vibrant color response, principally in the warm area of the spectrum.

These lamps have been found to be most effective on floral displays, people, and in other areas where a warm, natural look is desired. The strips are wired in alternate rows to provide selected moods and atmosphere for day or night lighting effects.

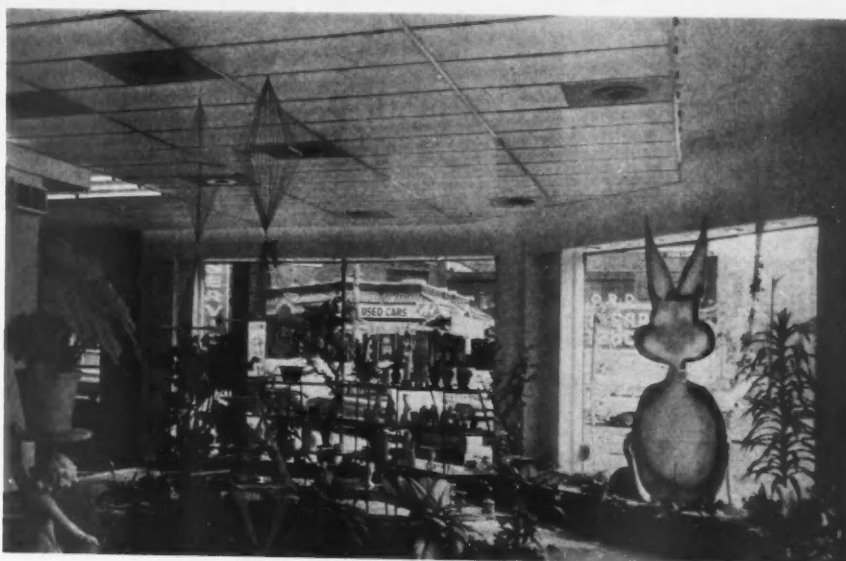
An interesting feature of the ceiling is the use of recessed adjustable floodlight fixtures installed in a carefully planned random pattern. This serves very gracefully to break up what might otherwise be a monotonous luminous ceiling area. Each of the luminaires is equipped with a 150-watt PAR 38 projector spotlight. The luminaires, in turn, are
(Continued on page 79)



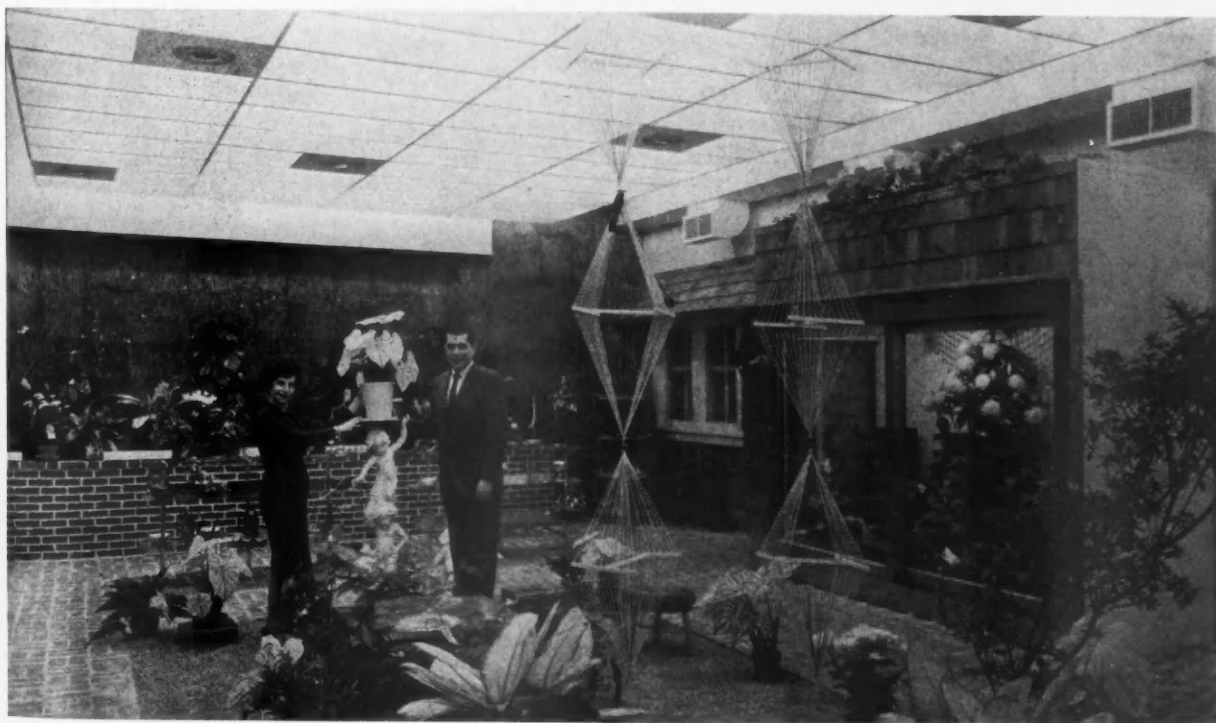
The floating luminous ceiling is suspended by a T-bar system from the original ceiling, which was painted white to provide good reflectance.

flower shop

an outstanding job



Appearance of over-all installation, to paraphrase well-known slogan, enables florist to "say it with light."





A wall bracket illuminates front entry. Double floods at the corners of garage and living room light walk.

Couple's first house meets Light for Living standards

By Maurine Miller Welch, Field Editor, Columbus, Ohio.

◆ A young married couple, Howard and Betty Zimmer of Powell, Ohio, have a new home—their first house, which they built for themselves.

It is a modest home but a Medallion, and nothing less than minimum Light for Living standards would do for the Zimmers.

Being in their mid-20's and married only three years, they had to watch the budget carefully as they planned their first house and adhere strictly to the plans as they built. No wild flights of fancy did they permit themselves.



A graceful hanging fixture in the front entrance hall greets guests.



Seven floods, each equipped with a 75-watt bulb, illuminate fireplace and window corner in the living room.



Large quantities of white make the bathroom fixtures give maximum effectiveness.



Four fixtures were used in the kitchen: a ceiling unit, a range hood light, a recessed light over the sink, and a fluorescent in the corner.



When the dining room table is extended, the fixture can be moved also.

During their first three years of marriage, they lived in an apartment and purchased furniture as they worked on their house plans. One of the early purchases Mrs. Zimmer made was an entrance hall fixture which she kept in original packing for two years before her new house was ready for it.

This hanging fixture is the most glamorous in the new house and a conversation piece. It has a 100-watt bulb, an opal glass inner globe, and a lovely etched-glass outer globe. Other fixtures are simple utilitarian ones, standard in any showroom.

To make the most of the lighting, the interiors of the house are light in color for greater reflectance values. Each room has at least one permanent lighting unit and supplemental portable lamps as needed for reading in the living room, two bedrooms, and den.

The living room has seven Virden polished brass floodlamps in-

stalled along the outer beams of the ceiling to give illumination to the fireplace wall and the window corner. Three floodlamps are on one wall switch and four on a second switch so that every other lamp may be used at a time, or all at the same time, depending upon the level of lighting desired.

Each floodlamp is equipped with a 75-watt bulb. With all living room lamps on at night, the room has footcandle readings from 15 at the fireplace hearth to 60 in a reading chair.

Just back of the living room is the family room, Danish in motif. It has a ceiling track with a Virden polished brass reel fixture and satin white opal glass reflector bowl. This fixture on its track gives flexibility for placing the light over the dining table.

Three 60-watt bulbs give a footcandle reading at the dining table of 37 with the fixture at the height shown in the accompanying photograph.

A desk planning center, between the family room and the kitchen built-in oven, has a wall cabinet above with a fluorescent installation below the hanging cabinet. This installation has two 15-watt tubes that give an illumination of 40 footcandles at the desk top.

Kitchen lighting includes a fixture in the range hood with a 100-watt lamp; a 150-watt lamp in a recessed Virden fixture above the sink; a 15-watt fluorescent tube under the upper cabinet in the mixing center between the sink and the refrigerator; and a center ceiling fixture with chrome base, a 12½-inch white ceramic glass diffusing bowl with a concave bottom, and three 60-watt bulbs.

The kitchen walls are an off-white and the countertops a pearl gray and white for high reflectance. Footcandle readings in the kitchen are from 20 in some areas to 40 on the counter.

Off the kitchen is a small laundry room with a 9½-inch Virden ceiling fixture. It is equipped with two 60-watt bulbs which supply ten footcandles of illumination at the top of the washer and dryer. Additional light is supplied by the control panels of the laundry equipment.

At the other end of the house are two bedrooms, each with an installed center ceiling fixture with a glass reflector bowl 14 inches in diameter.

A possible third bedroom is now used as a den. It has a center ceiling fixture with a 24-inch reflector bowl. The ceiling fixture in each of these three rooms is equipped with four 60-watt bulbs.

A bath and a half bath are each equipped with a ceiling fixture and a bracket fixture at each side of the mirror or grooming area. These fixtures are polished chrome with satin white opal glass shields.

The brackets are seven inches high and stand out 6½ inches from the wall. The ceiling lamp has 100 watts and the wall brackets each 60 watts. At face level in the bathroom the footcandle reading is 80. The ceiling light and the ceiling fan are on separate wall switches.

(Continued on page 80)

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SPaulding 2-7600



Power Groove lamps in Guth fixtures, with a 20 per cent upward light component, produce 200 footcandles.

High levels boost worker comfort

Specially designed installation provides 200 fc maintained in factory

◆ High-level illumination has enabled a Downers Grove, Ill., manufacturer to literally eliminate headaches from production.

The change took place at Scot, Inc., producer of electrical coils and other equipment for servomotors, synchro-motors, and other electrical apparatus, which recently moved into new, better lighted facilities.

According to the Scot president, Glen F. Graham, "Under our former lighting system we had only 50 to 75 footcandles. Today, with a newly designed lighting installation of Power Groove fluorescent lamps, we will maintain 200 footcandles and right now have about 230.

"The difference," he continued, "was very graphically put by our vice-president of the electrical division, Maurice Jacobs, when he

noted that 'It seemed that we used to give away aspirin by the barrel while now we hardly give away any! Indeed our girls are experiencing far greater comfort, less fatigue, and production quality and efficiency are benefiting.'"

The assembly operations at Scot, Inc., require fine work winding, inserting, tying down, forming, and other operations to produce rotors and stators. The 200-plus footcandle general lighting system is supplemented with small directional lights at critical operations so that up to 750 footcandles may be obtained for fine work with size 45 magnet wire.

Both Mr. Graham and Mr. Jacobs have noted other benefits since moving to the new, better lighting system. They find that the girls seem less inclined to

need extra breaks due to fatigue. (Standard work breaks are scheduled every two hours.) In addition, both notice a greatly increased ability and desire to keep the manufacturing area clean.

Before moving to the new assembly area, Mr. Graham called in General Electric engineer Ben Avery to help plan the lighting requirements.

Mr. Graham set down the conditions he wanted—a comfortable working environment that would lead to the highest possible efficiency. He felt that lighting was "the most important contributor to that goal."

Mr. Graham and Mr. Jacobs have carefully paid attention to every visual detail. For instance, sun glare problems are reduced with use of frosted and coated windows. Contrast has been an-



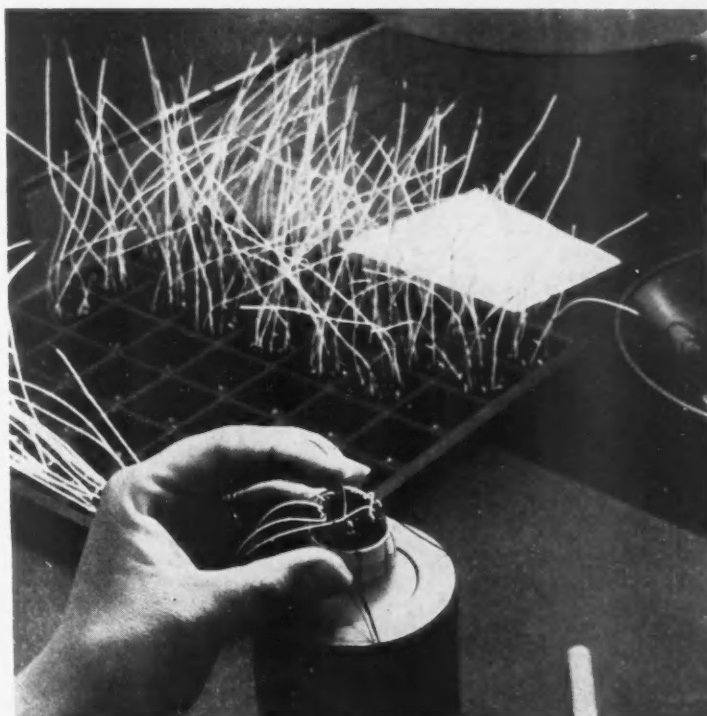
Supplemental lamps produce up to 750 footcandles of illumination to make close work on electrical apparatus easier. A dark felt pad on the work surface helps assemblers to see where enamel has been removed from the fine size 45 magnet wire. Below, the insertion is also performed under 750 footcandles.



other problem—contrary to the normal recommended practice of using a light colored, high reflectance work surface, Mr. Graham uses darker felt surfaces for many of his key tasks. The reason? The contrast between the enamel coated wire and the stripped wire ends which shine out against the dark background simplified the connecting and soldering operation.

Mr. Avery, by using the portable demonstrator, the "See-Level Comparator," was able to let Mr. Graham preselect the exact lighting level he desired to perform the operations in his assembly work. After testing actual work samples from his plant, he settled on a minimum level of 200 footcandles for general lighting, and determined absolute need

(Continued on page 80)





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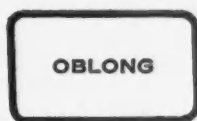
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Supplier uses sample homes to sell fixtures



One area of the showroom displays a group of outdoor lighting fixtures.

With thousands of people going through display houses, firm can promote sales for new dwellings as well as existing ones

By Phil Lance, Field Editor, Philadelphia, Pa.

◆ New home developments have opened a tremendous sales market for Uhr Electric Supply Co., Pennsauken, N. J.

"Less than five per cent of all new home buyers accept the electrical fixtures that the builder supplies with the home," explains Sol Mankin, residential lighting manager. "Almost as a unit, they want higher quality lighting fixtures, and they use the allowance that the builder gives them to eliminate the fixtures that he sup-

plies with the home towards the purchase price of the new fixtures."

New home buyers are attracted to Uhr Electric because of the fixtures that have been supplied in the sample homes. Mr. Mankin contacts builders erecting 50 homes or more and offers to supply them with fixtures for the entire home in return for having a small sign attached to each fixture which mentions the Uhr Electric Supply Company and its address.

The contractor installs these fixtures in the sample home, and when this property is sold, the new owner can buy these fixtures or they are returned to Uhr Electric. In every instance to date, the purchaser of the sample home has purchased the fixtures that were installed in it.

"We supply the fixtures without cost to the builder, who will always install them in his sample home because it enhances his property and helps to sell it more quickly," explains Mr. Mankin. "At his option, he can always remove these fixtures and return them to us as long as they have not been damaged."

"However, in every case so far, the fixtures that have been installed in the sample homes have always remained there. During the period of time that the sample home was open we attracted the new home buyers to our showroom to make their personal selection of higher quality fixtures for installation in their new property."

In some instances, builders



Mr. Mankin answers customer's questions on outdoor lanterns.



Uhr Electric is located on a main highway and passing motorists can easily see fixtures displayed inside.

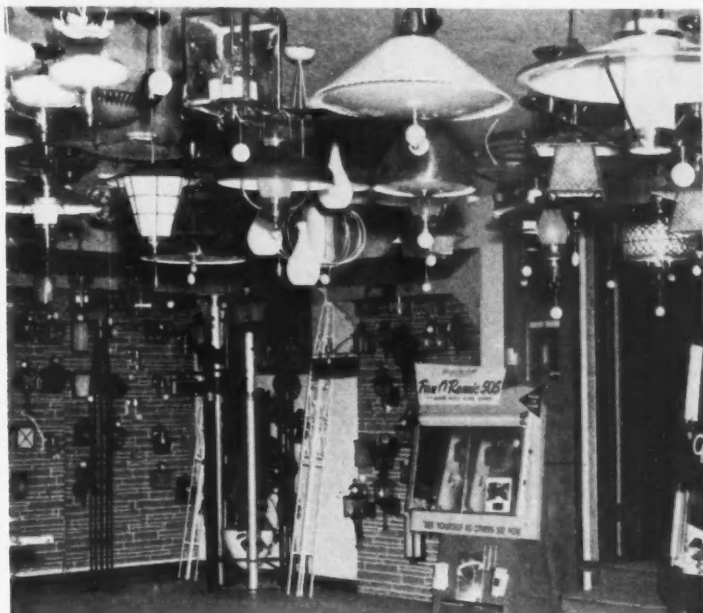
have constructed several different model homes and, therefore, Uhr Electric has installed different fixtures in each of these homes—according to the individual needs. This has helped to show the public a greater variety of the type of fixtures to be found at Uhr Electric, and while attracting the new home buyers to this residential lighting showroom, has attracted hundreds of non-buyers who visited these sample homes when they were open to the public.

"Thousands of people go through sample homes, while only a small number of them are needed to buy the new properties," points out Mr. Mankin. "When they see our fixtures throughout the property and the small signs which point out where they came from, it provides us with greater recognition and a greater sales potential.

"Hundreds of customers walk into our showroom and tell us that they are here because they saw our fixtures in the sample homes and they thought they were in such excellent taste that they are here to buy more modern fixtures for replacement in their present homes. For the loan of these fixtures, as we call it, to the contractors in their new homes, we enjoy a tremendous sales return."

Mr. Mankin keeps a file on each home development in which he keeps complete records of all sales, customer requests, and other pertinent details. Thus, if a new home buyer should say

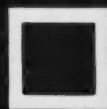
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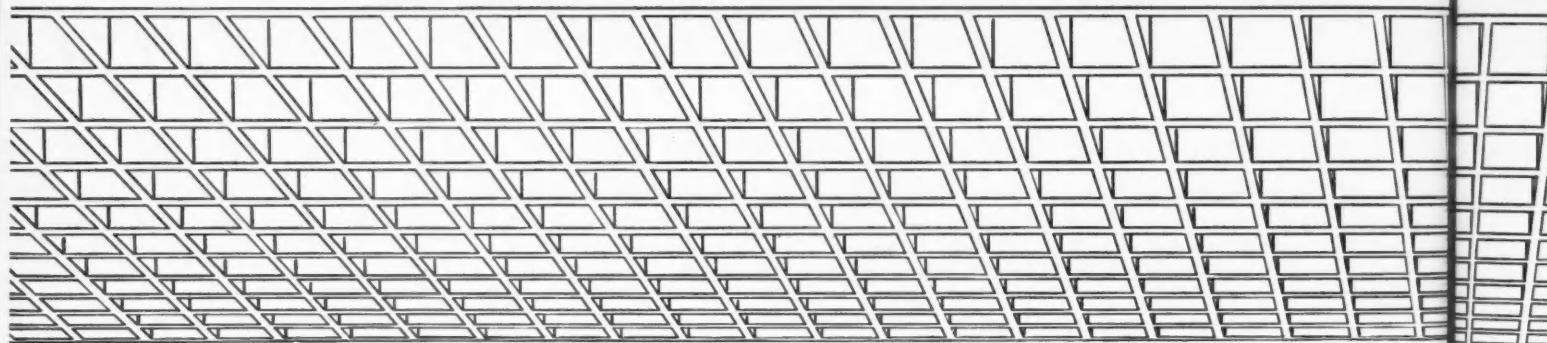
A well-stocked showroom supplements the displays in houses.



Separate rooms are maintained for crystal and recessed units.



EXCELLENT LIGHT DIFFUSION COMES FROM A $\frac{3}{8}$ " CUBE



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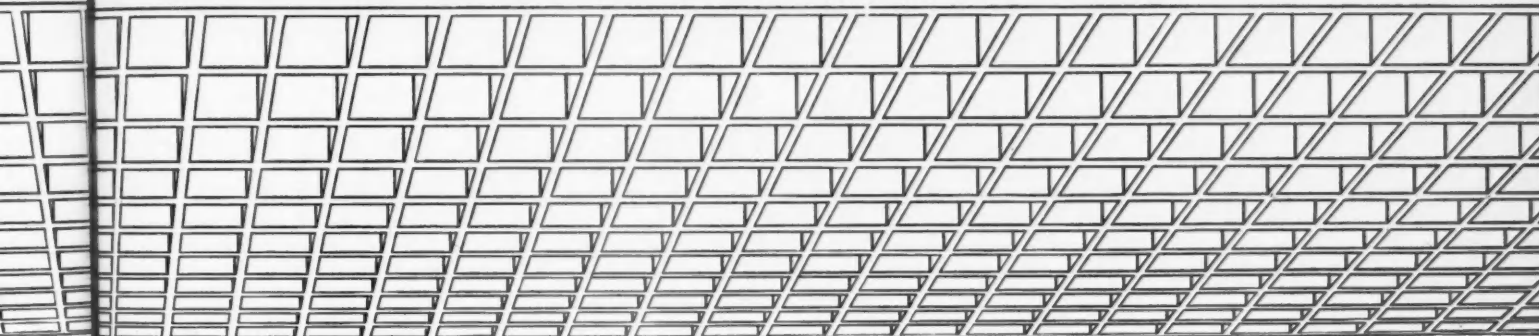
The secret of excellent light diffusion from the 2' x 4' Gratelite Louver-Diffuser, made by Edwin F. Guth Co., lies in a $\frac{3}{8}$ " cube. Thousands of these open polystyrene cubicles chop up direct light rays and reflect them in smooth, shadowless illumination. The closely-spaced cubicles of the Gratelite also hide the lamps better, provide a free flow of air so the lamps and ballast can operate cooler, and eliminate the build-up of dirt and bugs. The Gratelite is made from light-stabilized EVENGLO® polystyrene, a Koppers plastic that comes in a wide range of colors and can be extruded in a variety of sizes and shapes.

Gratelite ceilings molded from EVENGLO can be easily cut with a fine-tooth saw to fit almost anywhere. The solid, one-piece plastic won't sag, buckle, warp, or bend and it installs as simply as building blocks. Guth Company also uses EVENGLO for louvers in their Futurlite, Utility-Lite, V.C.U., Slimux, Peerlite, and concave Gateway lighting fixtures. For details on EVENGLO, contact Koppers Company, Inc., Plastics Division, Dept. 1210, Pittsburgh 19, Pa.

Gratelite Louver molded by: Prolon Plastics, Inc., Florence, Mass.



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Curved ceiling creates
spacious effect
in utility's
demonstration
kitchens



The dramatic luminous ceiling provides the kitchens with 130 fc of illumination.

Luminous ceiling lights displays

By George E. Toles, Field Editor, Hamburg, N. Y.

◆ The eye appeal and efficiency of luminous ceilings is effectively displayed in the new demonstration kitchen center of the Public Utilities Commission Building in London, Ontario.

Core of the center is two kitchens with examples of almost every appliance on the market today. Curving over both kitchens is a luminous ceiling with fluorescent tube fixtures which provide even light through the perforated vinyl louvers.

A concealed air conditioning system circulates fresh air through the perforated ceiling. The center is electrically heated by baseboard convection units.

Architect for the \$70,000 center was H. L. Hicks of London, Ontario. Consulting engineer was Alex Morton of London, and the electrical contractor was Jolly & White, Ltd., also of London.

Circlgrid, the new non-burning vinyl louver, was employed in the lighting installation because of its aesthetic qualities as well as its adaptability for air conditioning

and its sound adsorption aspects. J. A. Wilson Lighting, Ltd., of Toronto supplied this material.

The demonstration kitchen area measures 36 by 38 feet. The lighting level is 130 footcandles. The installation called for 124 rapid-start strip units mounted on 18-inch centers in continuous rows, nine inches above the T-bar grid ceiling system.

Height above the floor at the outside edge is seven feet, six inches, and at the middle is nine feet, six inches. Facing panels are
(Continued on page 76)



Knox B. McMasters, (left) President, Master Fabricators, Inc., Birmingham, Ala., explains one of his current projects to Emmett Burton, his Dodge Representative.

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Master Fabricators is a thriving business that produces products ranging from ornamental aluminum railings for building interiors to steel stairs, structural ironwork and missile launching platforms in use at Cape Canaveral. Mr. McMasters says, "Dodge Reports have made it possible for us to expand from a purely local supplier to one operating in a multi-state area. Even if we had a large full-time new business staff, we could not hope to produce the volume and accuracy of advanced construction news that Dodge Reports provide us."

Mr. McMasters emphasizes, "A review of Dodge Reports is a must for executive attention each morn-

ing. With competition as keen as it is in this day and age, we cannot afford to fall even 24 hours behind the very latest developments in the construction industry; otherwise, competing firms could take quick advantage of any lag on our part."

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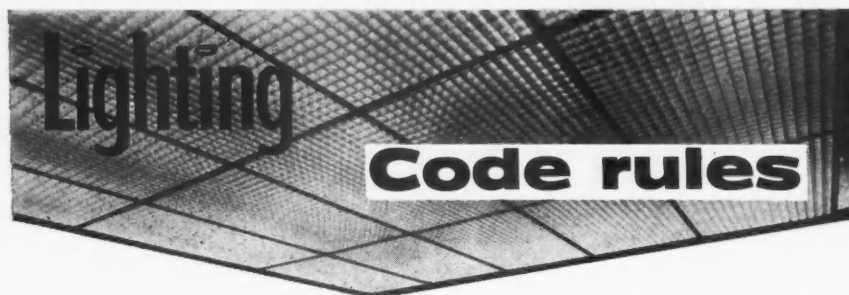
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Three panels consider proposals for pool lighting and equipment

By Walter R. Stone, Contributing Editor on Code Rules, Utica, N. Y.

◆ In this issue, we will discuss first the present status of swimming pool lighting and then continue with our discussion, started earlier, of some of the less well-known Code rules governing studio lighting.

Three Code-Making panels of the NFPA National Electrical Code Committee—Panels 2, 5, and 10—considered special proposals for electrical underwater swimming pool wiring and equipment at their latest meeting in Detroit.

Panel No. 2 considered special rules for branch circuits supplying movable or portable equipment and lighting in or on swimming pools.

Panel No. 5 considered special rules for the non-current-carrying metal parts of fixed, movable,

or portable equipment in or on swimming pools.

And Panel No. 10 considered special rules for the non-current-carrying metal parts of lighting fixtures installed in and on swimming pools.

Principal considerations

The principal considerations were (1) a limitation of voltage and (2) a more positive method of grounding non-current-carrying parts. All of the panels tentatively proposed a new requirement that an additional equipment grounding conductor be required and forbidding sole dependence upon metal raceways or metal armor for equipment grounding conductors.

Panel No. 5, and also the technical subcommittee which had made the study of the special hazards inherent in wiring and

equipment in and around swimming pools, commented that better grounding methods would provide a more satisfactory solution to the problem than a lowering of the maximum permitted voltage.

Panel No. 5 stated, however, that better grounding methods, alone, were not a complete solution and mentioned possible energization of water piping and conduit, non-professional maintenance, corrosion, and a poor choice of wiring methods as being possible additional problems.

The panel felt, therefore, that the scope of the problem exceeded the range of Panel No. 5 and that referrals should be made to other panels.

The Correlating Committee ruled that the proposal of Panel No. 2 remain on the docket for further study and that the proposal of Panel No. 10 remain on the docket for correlation with Panels 2 and 5.

W. P. Lowell, Jr., member of Panel No. 10, and H. H. Weber, member at that time of Panel No. 10, voted against the majority opinion, with Mr. Lowell stating that, in his opinion, the grounding of non-current-carrying metal parts of underwater equipment operating at 120 volts would not eliminate the shock hazard.

He indicated a preference for the lowering of the maximum permitted operating potential to a maximum of 30 volts which, he said, should be supplied through an isolating type transformer.

Mr. Lowell's opinion, and apparently Mr. Weber's also, is shared by some other electrical men about the country, and low-voltage lighting units are now on the market for those who want them. At least one city ordinance, that of New York City, now requires, by the provisions of its Bulletin No. 17, that underwater lighting fixtures, not only for swimming pools, but also for reflector pools and for display fountains, be operated on circuits having a maximum potential of 12 volts supplied through a step-down, two-winding, isolating type transformer.

Such transformers are required by the city to have a grounded

(Continued on page 77)

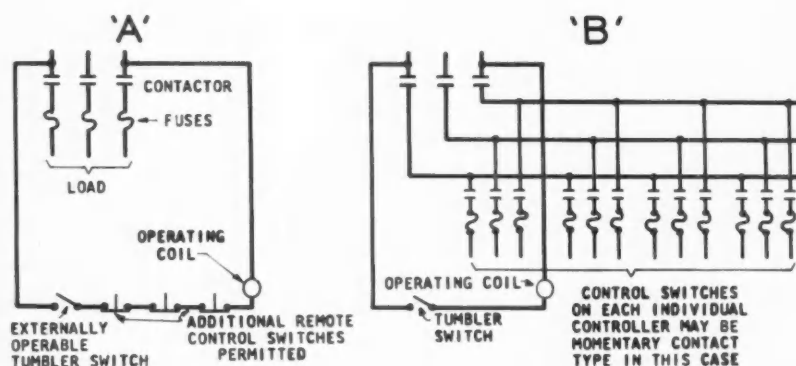


Fig. 1—Where contactor type controllers are used as disconnects for fuses in motion picture studios, an externally operable switch of the tumbler type is required to be placed within six feet of each controller so used, as at "A," except that a similar switch placed within six feet of a location board, as at "B," may be used provided that it simultaneously opens all controllers supplied by the board.

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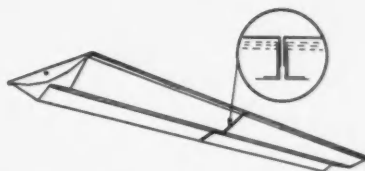
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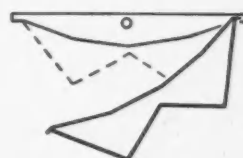
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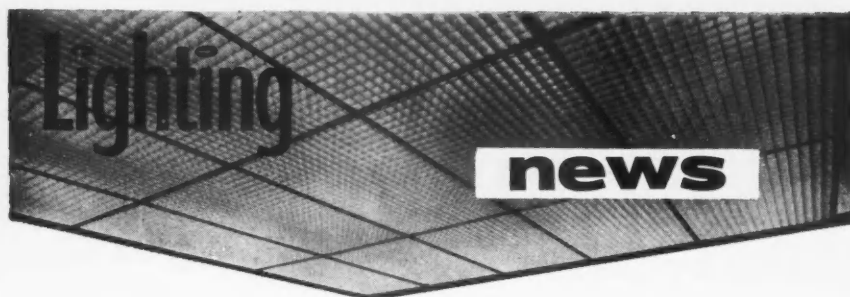
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For more details on above items, use reply card on page 21.

61



Manufacturer creates electroluminescent walk

THE INSTALLATION of a solid state, lighted sidewalk was recently completed in Salem, Mass., at the Lighting Products Division of Sylvania Electric Products, Inc.

Unlike other lighted sidewalks that have required conventional light sources to be placed beneath a transparent or opaque surface, the Sylvania sidewalk is composed of solid pieces of steel that are embedded in the ground and which produce light through the principle of electroluminescence. Known as Panelescent lighting, this form of light has already proved its ruggedness when it was punctured by a shotgun and remained lighted.

The Panelescent lamp, a separate light source, as incandescent and fluorescent lamps are different types of source, produces light over the entire surface of a metal panel by the principle of electroluminescence, in which light is created by the excitation of phosphors in an electrical field. Wafer thin, the lamp produces



Sylvania Panelescent lamps are used in this electroluminescent sidewalk. The model displays a similar lamp.

a uniform light without the use of a bulb or tube, filaments, or cathodes.

The Panelescent lamps used in the sidewalk are set in aluminum trays and completely covered with plastic for weatherproofing.

Premium fluorescents become standard line

USERS OF 40-WATT fluorescent lamps will enjoy the benefits of more light and lower lighting costs as a result of a price reduction in premium lamps announced recently by General Electric Co., Nela Park, Cleveland 12, Ohio.

The 3100-lumen Premium 3, most powerful 40-watt fluorescent lamp yet made by G-E, has been made the standard 40-watt lamp line at standard prices. This means a ten per cent list price reduction for the former premium lamp line.

Those who have used the 2,900-lumen standard F-40 will receive a seven per cent increase in light, or 200 extra lumens per lamp, at no additional cost for either lamps or electricity, by changing to the 3,100-lumen lamp.

Since the premium lamp is being accepted as the standard one, the Premium 3 listing will be discontinued. The F-40 ordering designation of the standard line will be kept, but this lamp now will incorporate the design and performance characteristics of the former, higher priced premium lamp.

It is estimated that about one-half of all fluorescent lamps employed today in offices, stores, schools, homes, factories, and elsewhere, are of the 40-watt type.

Maintenance contractors elect St. Jean president

EUGENE ST. JEAN was elected president of the National Association of Lighting Maintenance Contractors at the organization's annual convention in Las Vegas.



Melvin H. Galbraith, left, past president of NALMCO, congratulates the incoming president, Eugene St. Jean.

Mr. St. Jean, who succeeds Melvin H. Galbraith, is president of St. Jean Lighting Maintenance, Inc., West Springfield, Mass. Mr. Galbraith heads Approved Lighting Service of Cedar Rapids, Iowa.

Other officers elected at the convention include William C. Abrams, secretary and treasurer, San Francisco, and five vice-presidents: William Kelly, Jackson, Miss.; Lin Best, Temple City, Calif.; Edward I. Creed, Cleveland; John Razzano, New Castle, Pa.; and Ken Purington, Davenport, Iowa.

NALMCO now consists of 110 independent lighting maintenance contractors located in the important commercial and industrial areas of the United States and Canada. These companies clean, repair, and relamp lighting fixtures on a contractual basis.

IES organizes chapters in Florida and Virginia

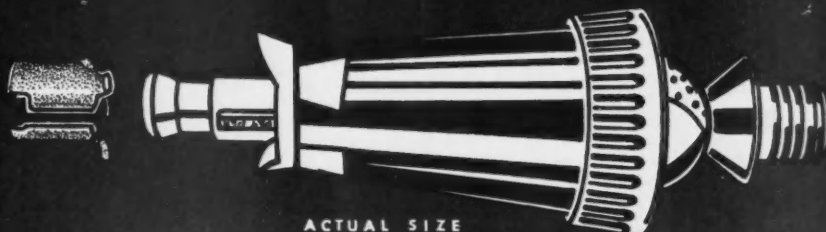
TWO NEW CHAPTERS of the Illuminating Engineering Society have been authorized, it was announced recently by A. D. Hinckley, managing director.

This brings the total number of local groups of the IES, the recognized authority on lighting standards in the United States, to 96.

Action was taken recently by the council of the 10,000-member organization to approve the grant of charters to the Gulfstream Chapter and the Blue Ridge Chapter.

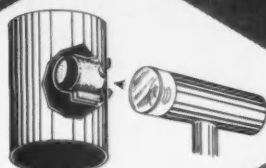
Headquarters of the Gulfstream group is in Fort Lauderdale, Fla. It

* SIDE * A * LITE'S * NEW SNAP 'N SWIVEL



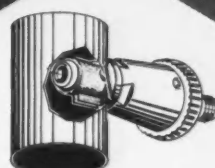
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PATENT
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Side A Lite's new Snap 'n Swivel eliminates troublesome alignment problems, set screws, swivel rotation and thread stripping. Skirt conforms to the circumference of the pole. Easy to install, just prewire and snap in. A "must" for every pole and lamp fixture manufacturer who wants the newest and most economical in pole lamp assembly and design.

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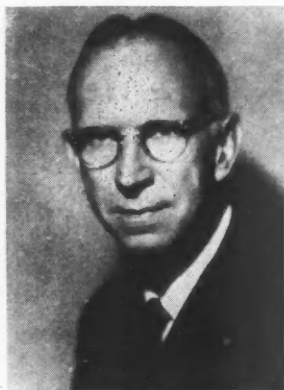
includes territory in the Florida counties of Broward, Palm Beach, Martin, St. Lucie, Indian River, and Okeechobee. The area was formerly in the Florida and Southeast Florida Sections of the IES.

The Blue Ridge Chapter is based in Roanoke, Va. It takes in territory formerly in the Virginia Section. Counties included are Blank, Wythe, Grayson, Carroll, Pulaski, Giles, Craig, Montgomery, Floyd, Patrick, Henry, Franklin, Roanoke, Botecourt, Allegheny, Bath, Highland, Rockbridge, Bedford, Pittsylvania, Halifax, Campbell, Amherst, Augusta, Nelson, and Appomattox.

IES Gold Metal Award goes to Dr. D. B. Judd

THE IES GOLD METAL AWARD for 1961 has been given to Dr. Deane B. Judd, "The outstanding authority in the field of color in the United States and probably in the world," it has been announced by A. D. Hinckley, managing director of the Illuminating Engineering Society.

The IES Gold Medal is awarded "for the purpose of giving recognition to meritorious achievement which has conspicuously furthered the profession, art or knowledge of illuminating engineering."



Dr. Deane B. Judd

The broad areas in which Dr. Judd has made major contributions are the "standard" observer for colorimetry and photometry, light scattering properties of materials, colorblindness, indices of whiteness, uniform color scales, color names, color differences and color tolerances, and chromatic adaptation.

Dr. Judd was educated at Ohio State University and at Cornell.

He has been a physicist at the National Bureau of Standards since 1922. He is also a Fellow of the Optical Society of America, of which he was president in 1954,

and received the Frederick Ives Medal in 1958.

Dr. Judd has served with eminence as the chairman of the International Committee of Experts on Colorimetry since the committee's inception in 1955 by the International Commission on Illumination (CIE). He prepared and personally presented the reports of his Committee on Colorimetry at the CIE Sessions in 1948 (Paris), 1951 (Stockholm), 1955 (Zurich), and 1959 (Brussels).

Pioneering work was done by Dr. Judd in the development and establishment of the internationally used standard method for the measurement of color which incorporates the standard observer for photometry and which is of fundamental importance to the profession.

He is currently actively engaged in developing a system for the measurement of light and color which will be applicable for ten-degree, large field, viewing to supplement the current system which is particularly applicable for three-degree, small field, viewing.

Residential fixture sales declined, survey shows

HOME LIGHTING fixture sales for the first six months of 1961 were 2.3 per cent under the comparable 1960 period, it was disclosed recently in a survey by the American Home Lighting Institute.

The institute's semi-annual lighting fixture sales survey revealed manufacturer sales declined 2.3 per cent while distributor sales were off 0.8 per cent for the period, according to Maurice M. Rosen, president of the institute.

However, an upward sales trend which began in April continued into the month of June, with manufacturer sales jumping 12.2 per cent, the best gain of the year. The upward movement began with a 3.4 per cent increase in April followed by a 7.4 per cent gain in May. The first three months' reports showed decreases of 19.9 per cent for January, 14.7 per cent for February, and 6.6 per cent for March.

Distributor sales have remained just about even with the first half of 1960, with June sales showing an increase of 0.4 per cent.

Ted Cox, AHLI managing director, cited governmental actions, general economic improvement, and a slight improvement in housing starts during the rest of the year as possible indicators of increasing fixture sales in the last half.



Correction

In the article beginning on page 40 of the July issue of *LIGHTING*, describing lighting in the unusual cafeteria of Prudential's Linwood, N. J., building, the special large pendent fixtures were attributed to the wrong manufacturer. They were designed and manufactured by Kurt Versen Co., in conjunction with Harry Mahler, chief designer for the architect, Frank Grad & Sons. One is to be seen in the foreground at the very top of the photo and another can be seen in the background.

Westinghouse expansion to aid panel production

WESTINGHOUSE announced recently that it has substantially expanded its production facilities for electroluminescent panels.

The new facilities will permit the company to produce the revolutionary light panels in metal, as well as in glass and plastic.

Electroluminescent devices, which Westinghouse calls Rayescent panels, are actually flat panels of glass, metal, or plastic with an electrical conductive film. They are coated with a special phosphor. When electricity is applied, the panels glow. In the case of metal panels, the metal itself conducts electricity.

There are no filaments, tubes, or vapors, and practically no heat is produced. Not only are the panels virtually fail-proof, but the current drain is almost negligible.

F. M. Sloan, Westinghouse vice-president and general manager of the company's Lamp Div., pointed



Watching Rayescent panels come off a new assembly line at Westinghouse's Bloomfield, N.J., facility are F. M. Sloan, center, vice-president and general manager of the company's Lamp Div., Philip F. Dietz, left, Rayescent products manager; and operator Jack O'Donoghue, removing the panels.

out that with the new manufacturing facilities, the company can produce Rayescent devices to meet a myriad of lighting and decorative needs. He said that the metal panels can be produced in sizes up to two feet square.

Glass Rayescent panels can be made up to 30 inches square while plastic panels can be made in a wide variety of shapes and forms.

The manufacture of Rayescent panels bears no resemblance to the making of light bulbs, Mr. Sloan pointed out. The production of the revolutionary panels entails such operations as spraying, silk screening, and enamel baking.

Lightonics guarantees against discoloration

USERS OF STYREX lighting diffusers from Lightonics, P. O. Box 7211, Oakland 1, Calif., can now receive guarantees against objectionable discoloration for up to 15 years of normal use.

The guaranteed diffusers can be specified for schools, hospitals, office buildings, department stores, and other such installations.

The Styrex line of crisp, white panels has high efficiency with over 50 per cent transmission. The high impact resistant material has more impact strength than vinyl.

General Electric offers new area lighting units

GENERAL ELECTRIC has launched a major area lighting marketing program with a significant expansion of its product line and a new and greatly simplified application guidebook, the "Area Lighting Designer's and Buyer's Guide."

The company has added two new mercury units and two fixtures utilizing Quartzline lamps to its traditional line of floodlights. Rounding out the new luminaire package are three post-mounted units—one for incandescent only, one for mercury and incandescent, and one fluorescent. In addition, a "quick response" photoelectric control was developed.

The new mercury units are avail-

able in two sizes, up to 400 watts in the smaller size, and 700, 1,000, or 1,500 watts in the larger size. Both models resemble small television sets in appearance, and are intended for applications where lights will be used for more than 1,000 hours a year, and where a wide angle beam is desirable. All units feature the first true "powerpack" design, with built-in ballasts for neat appearance and a saving in installation time (only a simple terminal board connection is required).

In the incandescent line, General Electric has made available two models employing the Quartzline lamp, with its higher lumen output, tightly controlled beam, longer life, and high lumen maintenance. For these lamps, the company has developed the QF-500 (500-watt) and the QF-1500 (1,500-watt). The units are marked by a very wide horizontal beam and a very narrow vertical beam with sharp cutoff.

Designed primarily for mercury, but accommodating incandescent as well, is the PMA-115, a canopy-covered luminaire with a shatter-resistant acrylic-plastic refractor. It is available with individual photoelectric control or for remote switching and can be customized with special insignia (lighted at



The powerpack design mercury floodlight from G-E gives high efficiency.



G-E Quartzline floodlights have a wide horizontal, narrow vertical beam.



New G-E fluorescent post-mounted unit gives 6,900 lumens, at 150 watts.

night) for churches, fraternal organizations, trade-marks, and the like.

For fluorescent applications, the company has added a unique luminaire—the PMF-104—a post-mounted fluorescent fixture. The unit is designed for ten- to 20-foot mounting heights, and carries a single four-foot 6,900-lumen Power Groove lamp.

For incandescent lamps only, G-E produced the inexpensive PMG-114, a design with a "coolie hat" canopy and rippled-glass globe, that will take up to a 6,000-lumen, 405-watt lamp. The unit gives a soft, practically glare-free light distribution of a circular shape (i.e. type V). Applications include walkways, malls, building entrances, and recreation areas.

Morgan gets position with Ender-Monarch

APPOINTMENT of Harry E. Morgan as general manager of Ender-Monarch, lighting fixture division of Acoustica Associates, Inc., Garfield, N. J., has been announced by Rolin M. Russell, president of Acoustica.

Mr. Morgan, with a background of 18 years in engineering, manufacturing, and sales, served most recently as executive vice-president of Curtis-Allbrite Lighting, Inc., of San Francisco and Chicago.

He has also held executive positions with Lockheed Missile Systems Div., Sunnyvale, Calif., AiResearch Manufacturing Co., Los Angeles; and Propulsion Research Corp., division of Curtiss-Wright Corp., Santa Monica, Calif.

He holds a degree in mechanical engineering from the University of California.

McGraw-Hill publishes electric reference book

THE "AMERICAN ELECTRICIANS' Handbook," Eighth Edition, reference book for practical electrical workers, has been recently published by the McGraw-Hill Book Co., Inc., 330 W. 42nd St., New York 36, N. Y.

The book, which includes 1,676 pages and 1,620 illustrations, plus an index, is designed for those who deal with the design, installation, and maintenance of electrical installations and equipment.

The information is presented without the use of advanced mathematics and covers electrical con-

ductors, switchgear, panelboards, protective devices, wiring materials, capacitors, batteries, rectifiers, transformers, generators, motors, lamps, and lighting fixtures.

The author, Clifford C. Carr, formerly assistant dean of Pratt Institute's School of Engineering, has been editor of the "American Electricians' Handbook" since the third edition was published in 1932.

A graduate of the Rensselaer Polytechnic Institute, he has had 41 years of experience in the teaching of electrical engineering and technology, as well as in the design and

selection of equipment for electrical installations.

The book, which sells for \$17.50, is in complete accordance with the 1959 National Electrical Code, and covers both interior and exterior installations. The majority of illustrations are new.

Majestic names agents for New York and West

TWO NEW SALES representatives have been appointed by Majestic Metal Spinning and Stamping Co.,

COMING EVENTS

Lighting Progress Exposition, Electrical League of Southern Calif., Hollywood Palladium, Hollywood, Calif., Oct. 3-5, 1961.

Delaware Valley Electrical Progress Show, Convention Hall, Philadelphia, Pa., Oct. 3-5, 1961.

Western Building Industries Exposition, Great Western Exhibit Center, Los Angeles, Calif., Oct. 7-10, 1961.

National Electrical Contractors Assn., Annual Convention and Exposition, Sheraton Park Hotel, Washington, D. C., Oct. 9-12, 1961.

Edison Electric Institute, Transmission and Distribution Committee, Ft. Des Moines Hotel, Washington, D. C., Oct. 12-13, 1961.

American Institute of Electrical Engineers, Fall General Meeting, Statler-Hilton Hotel, Detroit, Mich., Oct. 15-20, 1961.

Eighth Industrial Electric Exposition, Penn - Sheraton Hotel, Pittsburgh, Pa., Nov. 7-9, 1961.

National Electrical Manufacturers Association, Annual Meeting, Traymore Hotel, Atlantic City, N. J., Nov. 13-17, 1961.

Southeastern Electric Exchange, Sales, Advertising, and Public Relations Conference, Tides Hotel, St. Petersburg, Fla., Nov. 15-17, 1961.

American Institute of Electrical Engineers, Winter General Meeting and Electrical Engineering Exposition, New

York Coliseum, Jan. 29-Feb. 2, 1962.

Missouri Valley Electric Association, Industrial and Commercial Sales Conference, President Hotel, Kansas City, Mo., Feb. 15-16, 1962.

National Home Improvement Exposition, New York Coliseum, New York, N. Y., March 2-4, 1962.

Sixth National Electrical Industries Show, New York Coliseum, March 11-14, 1962.

Illuminating Engineering Society, East Central Region, Traylor Hotel, Allentown, Pa., April 9-10, 1962.

Illuminating Engineering Society, Southeastern Region, King Edwards Hotel, Jackson, Miss., April 12-13, 1962.

Illuminating Engineering Society, Great Lakes Region, Dayton Biltmore Hotel, Dayton, Ohio, April 16-17, 1962.

Illuminating Engineering Society, North Central-Midwest Region, Hotel Radisson, Minneapolis, Minn., May 10-11, 1962.

Illuminating Engineering Society, Pacific Northwest Region, Davenport Hotel, Spokane, Wash., May 17-18, 1962.

Illuminating Engineering Society, South Pacific Coast Region, El Cortez Hotel, San Diego, Calif., May 21-22, 1962.

Illuminating Engineering Society, Inter Mountain Region, Western Skies Hotel, Albuquerque, N. Mex., May 24-25, 1962.

Illuminating Engineering Society, Northeastern Region, U. S. Thayer, West Point, N. Y., June 11-12, 1962.

Inc., 537 Sackett Street, Brooklyn, N. Y., it was announced by Albert Silverberg, secretary of the company.

Irwin Flaum is now covering the entire state of New York, with the exception of New York City. Mr. Flaum's headquarters will be located at 22-15 79th St., Jackson Heights 70, N. Y.

Aaron Joslow now represents the company in the states of California, Oregon, and Washington, with offices at 17254 Hatteras St., Encino, Calif.

Kirlin appoints Harkey Indiana representative

THE APPOINTMENT of John F. Harkey, Indianapolis, as representative of the Kirlin Company in central and southern Indiana has been recently announced by Paul D. Cornelisen, sales manager of the company.

Project moves company to new and larger plant

A MOVE to a new plant location built to company specifications has recently been made by Project Fixture Manufacturing Corp., now located at 10 Ranick Drive S., Amityville, N.Y.

The new facilities permit the addition of finishing work, in addition to chandelier work, spraying, pipe bending, and other such operations.

Luxo office to serve in Midwestern states

A CHICAGO OFFICE for Luxo Lamp Corporation has been newly established under the supervision of John S. Sprenger, it was announced recently by Sam F. Blake, Jr., sales manager of the company.

Located at 600 W. Jackson Blvd., Chicago 6, Ill., the office will serve Illinois, Wisconsin, and Indiana.

Silverstein & Goldberg to sell 'Hercules' line

THE RECENT APPOINTMENT of Silverstein & Goldberg as New York metropolitan area agents for the Allen-Stevens line of "Hercules" lighting and lamp swivels has been announced by the company.

The new agents are located at 1182 Broadway, New York 1, N. Y.



for 3 important reasons

- ECONOMY
- SAFETY
- CONVENIENCE

More and more architects, builders, contractors and specifying lighting engineers select Paragon Time Controls for automatic night-lighting because of these important, functional reasons—*safety, economy and convenience.*

You will find Paragon Time Controls used for lighting entrances, foyers, stairways and exits in *apartment and public buildings* to provide safety from falls and injuries... to attract and accent architectural features of *churches* at night-time... to light *parking areas* and *shopping centers* to prevent vandalism, and safeguard customers from accidents.

For more information on Paragon Time Controls... convenient Service Station locations... CONTACT your authorized Paragon Distributor. He carries a full line in stock, and is qualified to offer technical assistance on any lighting application.



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Keeps in step with the sun and the seasons. Control can be set to come ON at sunset, OFF at sunrise, or OFF at any other pre-selected time. Resetting to keep pace with seasonal time changes is unnecessary. Any day or days can be omitted with SKIP-A-DAY design.

Time is money... control it with Paragon



New merchandise displays for Sylvania light bulbs include, from left to right, the R-281 floor unit, the R-267 "Big Lamp" display, and the R-280.

Sylvania offers displays for merchandising bulbs

A FALL LINE of merchandiser displays, to promote retail sales of Sylvania incandescent light bulbs, has been announced by the Lighting Products Div., Sylvania Electric Products, Inc.

Three new, easily assembled merchandisers are available to offer a wide range of stock. Lead-off item in the new line is the R-267 "Big Lamp" display which features a 96-inch to a 120-inch high lamp and shade which can be readily surrounded with cut cartons of incandescent lamps. The R-267 can be assembled in 15 minutes and occupies about nine square feet of floor space. It can hold 216 color packs of either 60-, 75-, or 100-watt lamps.

The R-280 display merchandiser is of metal-reinforced construction and holds 252 color packs of premium profit soft white bulbs. It can be assembled in 60 seconds and occupies about three square feet of floor space. A reversible two-in-one header features "Back to School" with a coupon offer of a 50- by 33-inch map of the United States as a premium.

The R-281 display takes only 1½ square feet and assembles in 60 seconds. It holds 144 premium profit soft white three-way bulbs which feature the new Kon-tact base and the new vertical filament which gives 11 per cent more light.

J. Renshaw affiliates with Miami wholesaler

J. RENSHAW has become associated with Farrey's Wholesale Hardware Co., Inc., of Miami, Fla., it

was announced by the firm, which maintains modern showrooms for lighting fixtures.

Mr. Renshaw was for the past nine years connected with Ken's Wholesale Lighting Company in Miami. He has been associated with the lighting industry for the past 25 years.

H. Niederauer assumes Westinghouse position

HARRY L. NIEDERAUER has been named manager of marketing services of the Westinghouse Lamp Div.

The announcement was made by F. M. Sloan, Westinghouse vice-president and general manager of the Lamp Div.

Until recently a vice-president of the advertising agency, Fuller &



Harry L. Niederauer

Smith & Ross, Inc., Mr. Niederauer was advertising and sales promotion manager of the Westinghouse Lamp Division from 1943 to 1954. He studied business administration and marketing at New York University and Pace Institute.

His office will be located at the Lamp Division headquarters in Bloomfield.

Kirlin appoints Werner as new representative

THE APPOINTMENT of Walter F. P. Werner, North Royalton, Ohio, as representative of the Kirlin Company in the Cleveland territory was made recently, it was announced by Paul D. Cornelisen, sales manager.

Acme distributors pick 'Amour' as trade name

THE TRADE NAME 'Amour' has been adopted by Acme Sales Co., lighting equipment distributors and importers, according to a recent announcement by Robert W. Beale.

The company's headquarters and warehouse are located at 3885 Federal St., Camden, N. J.

House-O-Light names sales representative

HOUSE-O-LITE Corporation of Chicago has announced the appointment of the Wilson P. Byrd Sales Organization, 1920 Sullivan St., Greensboro, N. C., as district sales representative in the Virginia, North Carolina, and South Carolina territories.

Sterling chooses agents for Florida and Michigan

NEW REPRESENTATIVES for Florida and Michigan have been announced by Sterling Industries, Inc.

Bob Pinns Sales Co., 33 N.E. 93rd St., Miami Shores 38, Fla., will serve Florida.

Edward Bloom Associates, 622 Baldwin Ave., Royal Oak, Mich., has been named to cover the Michigan area.

Amber colored spots added to G-E line

AMBER has been newly added to the line of spots and floodlamps made by General Electric Co., Nela Park, Cleveland 12, Ohio.

The new lamps now make a total of seven colors available for use in indoor and outdoor applications by the company. Other colors are blue-white, blue, green, yellow, pink, and red.

LIGHTING for OCTOBER, 1961

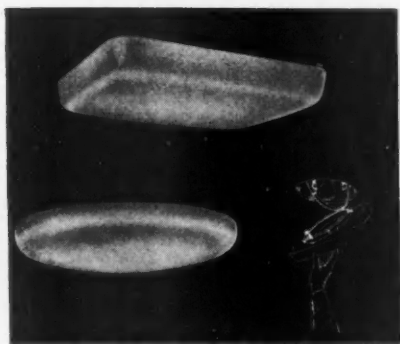
Lighting products

Prescolite recessed series

A new look in incandescent lighting fixtures has been created by Prescolite Manufacturing Corp., 2229 4th St., Berkeley 10, Calif.

The new units, the Astralume recessed series, feature a shallow silhouette look. The glass extends less than three inches below the ceiling, and permits the use of higher wattage lamps.

The Astralume fixtures are available in round or square units and utilize handblown Thermopal glass with no frames, latches, or visible means of support. The Astralumes



come in the following sizes: round, 11 $\frac{7}{8}$ or 16 inches in diameter; or square, 12 or 14 $\frac{1}{8}$ inches in diameter. A completely new counterbalanced hinge mechanism permits the glass to swing down and out of the way during relamping.

The prewired, recessed housing allows vertical lamping and the use of lamps as high as 300 watts where desired. The exclusive 27-inch junction box is retractable and permits access from above, below, or inside the housing. Night light housings, with additional socket assemblies, or top relamp housings are available as accessories upon specification.

Write P-1001 on reply card, p. 21

G-E high-output ballast

The average relative light output of model 6G1200 fluorescent lamp ballasts has been raised to 98 per cent by General Electric Co., 1 River Rd., Schenectady 5, N. Y.

This performance surpasses the proposed CBM specification of 95 per cent minimum relative light output for 96-inch, 1.5-ampere lamps, as well as exceeding the present CBM specification of 90 per cent minimum.

The ballast is designed to power two 96-inch or two 72-inch Power Groove, VHO, or SHO lamps from a 120-volt supply. It will operate reliably in ambient temperatures

above 0 F for the 96-inch lamps, and in ambient temperatures above -20 F for the 72-inch lamps.

Retaining its previous catalog number of 6G1200, the new design has been obtained without change in case dimensions, thermal performance, or sound rating. It is interchangeable with presently installed ballasts of the same rating.

Write P-1002 on reply card, p. 21

Corning glass lighting panel

A glass lighting panel, developed for fluorescent fixture applications where the appearance of the shielding panel is of prime concern, has been introduced by Corning Glass Works, P.O. Box 544, Corning, N. Y. Called "Uniglow" Alba-Lite brand panel, the new product was developed for prestige luminous ceiling and lobby installations.

The lighting panel is a rolled



Recent installation at the Le Flamboyant Restaurant, Forest Hills, N. Y.

Decorators and Architects . . . trained consultants available to discuss every lighting need

PHILITE RADIANT, INC.

SHOWROOMS OPEN DAILY

32-02 Queens Blvd., Long Island City, N. Y., ST 4-3600

sheet, non-patterned, opal base glass with a special surface treatment which increases light diffusion and lamp hiding power and eliminates surface reflection. The combination of opal base glass and surface treatment results in an even surface illumination.

The new glass panel is available in sizes up to 100 inches long and 48 inches wide. It is 5/32 of an inch thick and weighs 1.8 pounds per square foot.

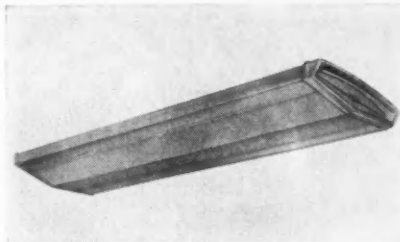
The lighting panel, with proper handling and maintenance, will retain its lighting qualities for the life of the installation, according to Corning.

Write P-1003 on reply card, p. 21

Moe fluorescent fixture

A new low-silhouette fluorescent fixture, M-4812, is now available from Moe Light Div., Thomas Industries, 207 E. Broadway, Louisville 2, Ky. The new luminaire is designed primarily for kitchen, work, and recreation areas where low ceilings are found.

Only 3½ inches thick, the lamp features one-piece construction with snap end caps; milk white plastic sides, and a prismatic lens. The



width is 11½ inches, while the overall length is 50 inches.

The new fixture uses 40-watt rapid start tubes, and is finished in white.

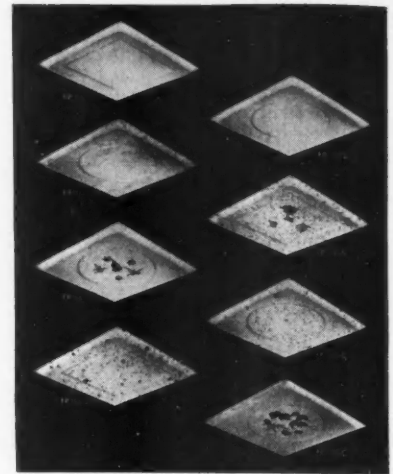
Write P-1004 on reply card, p. 21

Polyplastex decorative panels

A unique series of decorative formed and flat diffusers, known as Panlam diffusers, has been introduced by Polyplastex United, Inc., 870 Springfield Rd., Union, N. J.

Polyplastex has laminated metallic fibers, sequins, natural foliage, and even butterflies between sheets of vinyl to create a series of 16 patterns that are offered in formed 23½- by 23½-inch diffusers or in flat panels.

The depth of beauty and natural appearance of the decorative inclusions are retained in the finished



panels. In addition, they have a fabric surface texture which gives the diffuser a whiter and more brilliant appearance, lighted as well as unlit, than is found in most standard formed vinyl pans.

The company also makes available a broad series of additional designs in flat sheets for luminous wall, ceiling, or special lighting applications.

The diffusers, developed to fill the need of lower-cost, decorative fluorescent lighting, are U.L. listed.

Write P-1005 on reply card, p. 21

Custom designed
CHANDELIERS...

Bonhard's Interiors Cleveland, Ohio

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LIGHTING FIXTURE and LAMP PARTS

parts available from stock

CRESCENT BRASS MFG. CORP.
Seventh, Spruce and Bingaman Streets
READING, PA. U.S.A.

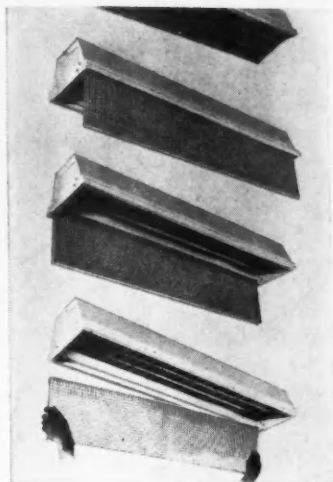
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when you deal with CRESCENT

Check this foundry for your cast brass parts. Over 50 years of specialized service to the lighting fixture and lamp trade. Send for this 48-page catalog. Shows parts available from stock. Will also manufacture parts to YOUR specification.

From Foundry to Manufacturer
CRESCENT BRASS MFG. CORP.
Seventh, Spruce & Bingaman Sts.
Reading, Pennsylvania

Globe hinged door fluorescent

A new commercial fluorescent lighting fixture from Globe Lighting Products, Inc., 1710 Flushing Ave., Brooklyn 27, N. Y., features the new Miracle Door pin and track shielding which allows panels to be hinged from either side. The dif-



fuser is securely attached to the troffer, eliminating any exposed frame.

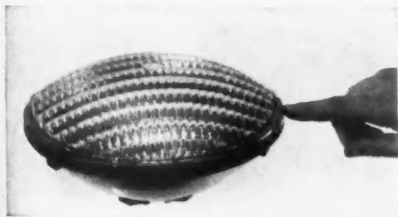
The fixtures are designed for all ceiling constructions in standard modular sizes of 1 x 2 feet, 1 x 4 feet, 2 x 2 feet, 2 x 4 feet, 3 x 3 feet, and 4 x 4 feet. Frameless polystyrene plastic lense are included.

Write P-1006 on reply card, p. 21

G-E swimming pool lamp

A new, more powerful 12-volt lamp for underwater use in swimming pools, fountains, and elsewhere has been announced by General Electric Co., Nela Park, Cleveland 12, Ohio. Rated at 500 watts, the lamp is a companion to a 300-watt 12-volt underwater lamp introduced early this year.

Eight inches in diameter, the new lamp resembles a sealed-beam auto



headlamp. It throws a wide and powerful beam of light under the water—about 60 degrees horizontally and 30 degrees vertically—and has a peak beam candlepower of about 20,000.

Some municipalities, counties, and states now require the use of low-voltage electrical equipment at

swimming pools for increased safety. The two 12-volt lamps meet this requirement.

To comply with these new regulations these lamps should be operated from isolating transformers, and should be mounted in a watertight housing having a cover plate.

Write P-1007 on reply card, p. 21

Thatcher lighting glassware

Thatcher Glass Manufacturing Co., Inc., Jeannette, Pa., has added six new shades to its line of glassware for lighting.

These include plain and hobnail hurricane shades as well as six- and



eight-inch plain and hobnail round shades. All six items are made of opaque white, heat resisting glass.

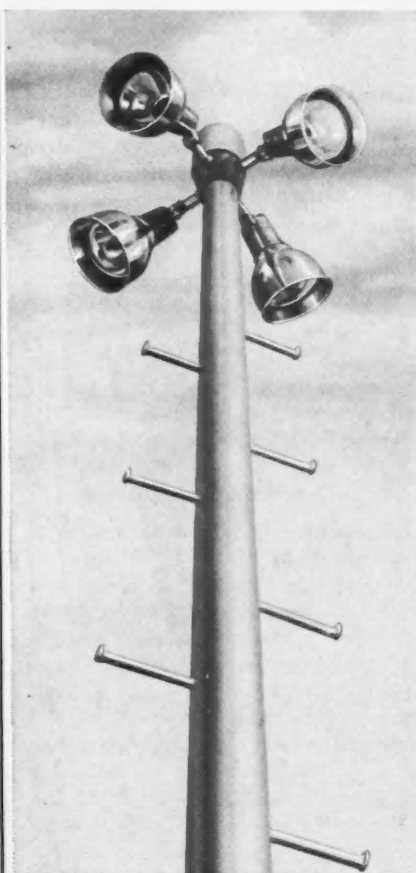
Among the new hurricane shades is model No. 29-H, a hobnail design with a height of 5½ inches and a maximum diameter of 4½ inches. The outside diameter of the bottom is 1½ inches.

Write P-1008 on reply card, p. 21

Sylvania multi-level lamps

A new series of three-way and "Hi-Lo" two-way incandescent lamps that perform more reliably at all wattage levels and provide substantially more light than currently standard multi-level lamps has been announced by the Lighting Products Division of Sylvania Electric Products, Inc., 1 48th St., Wheeling, W. Va.

The principal features of the new multi-level types are vertical filament construction, which provides the higher light levels, and a new tapered base construction, which assures greater reliability. The new axial, or vertical, construction includes a "coiled coil" filament which materially lessens the bulb blacken-



ABSOLUTELY NO MAINTENANCE

You are looking at Stonco sealed-beam mercury vapor floodlights.

Hermetically sealed inside each lamp is a brilliant silvered reflector.

The reflector stays brilliant because nothing ever touches it. Not dust, dirt or grime. Not even smoke, soot or chemicals in hazardous areas.

You climb the pole only to change lamps. This could easily be once every five years. Probably longer.

(Conventional floodlight reflectors lose up to 15% efficiency if not cleaned every three months.)

What do you want from a mercury vapor floodlight? Higher lumen output? Longer lamp life? Lower power consumption?

Stonco sealed-beam mercury vapor gives you all of this, at far less cost. Plus...

Absolutely no maintenance.

STONCO lighting

Write for Catalog MV

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ing that previously reduced light output in multi-level lamps.

The new base, known as the "Kon-Tact" base, has a tapered contact ring which provides a more positive contact with the power supply elements, even in a worn three-way lamp socket.

The three-way lamps and the "Hi-Lo" lamps now are being supplied in a smaller bulb envelope, $\frac{5}{8}$ inch smaller in diameter than the previous bulb size. The new smaller bulb size takes less store shelf space and is easier to handle and buy.

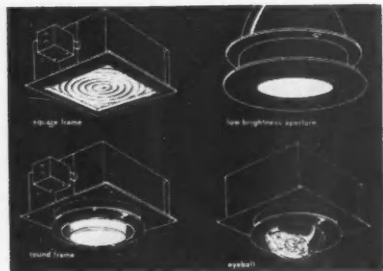
Write P-1009 on reply card, p. 21

Frink incandescent downlights

A new line of incandescent downlights made by the Frink Corp., 211 63rd St., Brooklyn 20, N.Y., is now available from Westinghouse lighting distributors. Styles include square-frame, round-frame, low-brightness aperture, and eyeball units in sizes from 75 to 300 watts.

The square-frame downlight can be supplied in ratings of 100, 150, or 300 watts. Available shielding includes an Alba-lite 55 lens for even illumination with a wide spread, a Fresnel lens for minimum glare with a medium spread, and a dished opal shield for both down and ceiling illumination.

Round-frame sizes are 75, 100, and 150 watts. Five types of shielding are available, including a dished



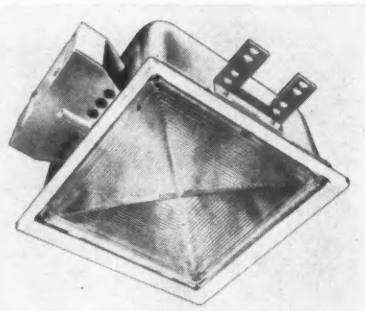
opal and a Fresnel lens. A two- or three-inch aperture can be supplied where the light source is to be concealed as much as possible, and concentric louvers can be furnished for reduced lamp brightness and a narrow concentrated light beam. No shielding is required if a type R40 reflector lamp is used in the fixture.

Write P-1010 on reply card, p. 21

Day-Brite indoor game lamp

A recessed lighting fixture made by Day-Brite Lighting, Inc., 6260 N. Broadway, St. Louis 15, Mo., has been found to be highly suitable for indoor handball courts.

Called the "tamper-proof Uni-Frame" fixture, it needs no wire guard over the lens, the company



reports. It uses a concave lens which is virtually unbreakable and unchippable.

In tests performed in the Day-Brite laboratories with an official handball No. 555, the lens was subjected to repeated, full-force direct and glancing hits without a single instance of glass breakage or chipping.

A tamper-proof latch prevents the lens frame from opening by the force of blows. The fixture completely recesses into the ceiling and provides spread distribution of light.

The Uni-Frame is available in two sizes, a ten-inch fixture for a 100- or 150-watt lamp, and a 12-inch fixture for a 200- or 300-watt lamp. The ten-inch Uni-Frame, with frame, fits a standard 12-inch tile opening. The frame is available in a baked white or natural aluminum finish.

The Uni-Frame fixture also meets the latest specifications of the Illuminating Engineering Society for handball courts.

Write P-1011 on reply card, p. 21

Century rectifier dimmers

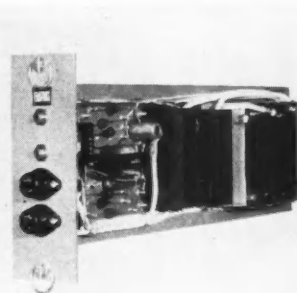
A line of U.L.-approved dimmers with silicon-controlled rectifiers is now being introduced by Century Lighting, 521 W. 43rd St., New York, N.Y.

Century Lighting's now patented silicon-controlled rectifier dimmers were announced in the spring of 1958, and were first installed in the Yale University drama school auditorium.

The company is now making available pluggable type silicon-controlled rectifier chassis in sizes up to 6,000 watts.

Since the first dimmers were installed, Century has developed a line of board types and sizes to suit every purpose and budget.

Write P-1012 on reply card, p. 21



the new Dimension for your fixtures!



NORTH AMERICAN
Electric Lamp Co.

nalco Candle Flame lamps

made in U.S.A.

Graceful Candle Flame Lamps bring forth richness and beauty too often obscured by less imaginative lighting. They suggest flame itself . . . warm and soft . . . add new distinction and charm to any fixtures.

- Available clear, frosted, amber, red, or candle flame (white with yellow tip) tints.
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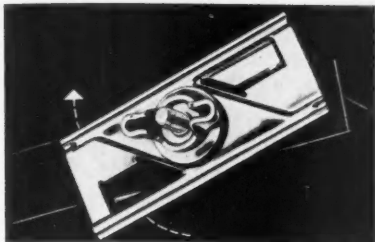
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Tomic T-bar fixture hanger

"Tomic-Lock" a new T-bar hanger designed to simplify mounting of electrical fixtures to acoustical ceilings, has been announced by Tomic Sales and Engineering Co., 20,000 Sherwood, Detroit 34, Mich.

The new hanger has been extensively field tested for more than a year, and according to the manufac-



turer has a holding capacity equal to that of the T-bar to which it is attached.

Installed without tools simply by twisting it into position on the supporting member, the "Tomic-Lock" can be easily adjusted after installation. It is constructed of spring steel, measures 1½ by 3½ inches, and is designed for use on any standard T-bar.

The new hanger is fitted with a ¼ - 20 by ¾-inch threaded stud and includes a heavy-duty wing nut and washer.

Write P-1013 on reply card, p. 21

Line Material mercury lamps

Styled mercury luminaires, rated 400 watts, are available from Line Material Industries, 700 W. Michigan St., Milwaukee 1, Wis., to supplement the units rated 700 or 1,000 watts.

These fixtures offer superior lighting performance and provide an aesthetic means of lighting streets, parking areas, and other outdoor locations.

Styled mercury luminaires with their fresh modern styling are furnished



ished in a lustrous aluminum finish or a choice of six pastel decorative colors which complement and enhance surrounding landscapes and architecture. They are equipped

with scientifically designed glass refractors, one for 400-watt lamps and one for 700- or 1,000-watt lamps, thus providing high efficiency, even light distribution, and low brightness.

Installation economy is achieved with styled mercury luminaires because they (1) have an internal ballast that eliminates the need for external ballasting arrangements; (2) mount directly to the pole top, thereby eliminating the need for an additional support arm; and (3) decrease the pole length required for a given mounting height because their light center is five feet above the pole top.

Write P-1014 on reply card, p. 21

Globe pulley fixture

A new ceiling pulley lighting fixture in glass, brass, and walnut, with an unusual dome to provide generous uplight, is being intro-



duced by Globe Lighting Products, Inc., 1710 Flushing Ave., Brooklyn 37, N. Y.

The fixture, No. G1145, can be raised for a full flood of light, or lowered for an intimate pool of illumination.

With a 21-inch diameter, the lamp contains four bulbs, and has a three-way switch.

Write P-1015 on reply card, p. 21

Dietz pioneer lantern

In answer to homeowners' demands for more authentic ornamentation, the R. E. Dietz Co., 225 Wilkinson St., Syracuse 1, N.Y., is again manufacturing the same design of original pioneer lanterns made by the company more than 80 years ago.

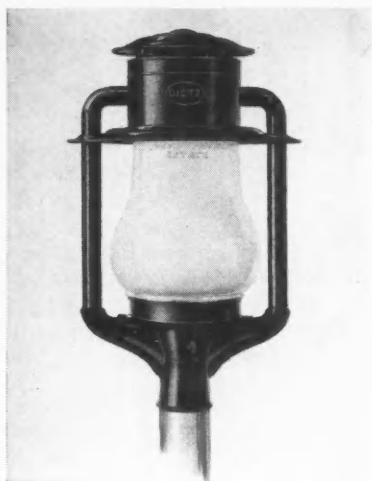
Made from the same original tools and dies, the lantern's only change is one from kerosene to electricity.

Are You Making Use of Our Reader Service?

The editorial and business staffs of LIGHTING MAGAZINE are eager to serve you. One way in which we can help you is to make it easy for you to draw upon the wealth of technical and promotional material available from manufacturers.

In the accompanying pages are the descriptions of scores of useful catalogs, application information booklets, and technical publications. These are available without charge.

Check over the list of publications available, indicate the numbers of the ones you want on the postage-paid card to be found on page 21, and mail it to us with your name, title, company, and address plainly written. We will tell each manufacturer to send directly to you the information you want.



It is listed by Underwriters' Laboratories, and accommodates any color or size electric bulb.

Nearly two feet tall, the lantern is finished in antique weatherproof black, with a frosted globe. It is easily mounted on any post or pipe, and the 2 7/8-inch diameter hollow base tapers to a 2-9/16-inch size for a snug fit.

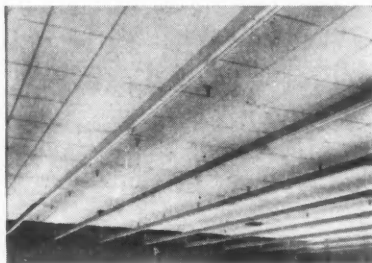
Write P-1016 on reply card, p. 21

Pendent lighting system

A new concept in pendent lighting systems which maintains approximately 100 to 150 footcandles at work levels using the new 1,500-ma lamp for high level lighting with low surface brightness in commercial and industrial areas is now available from Lok-Products Co., 5109 San Fernando Road W., Los Angeles, Calif.

Primary advantages include greatly reduced cost for a soft lighting effect of a fully luminous ceiling, elimination of ballast hum, longer ballast life, and low installation costs.

Integrated with Drive-Lok aluminum suspended ceiling systems, the



new pendent lighting system reduces heat radiation as much as 20 per cent by placing the ballasts in free air above the ceiling. Substantial savings in air conditioning result, along with lower power and maintenance costs.

The extruded fixtures are assembled from U.L.-listed Lok-Electric fittings.

Write P-1017 on reply card, p. 21

G-E 6,000-watt floodlamp

Development of one of the nation's largest and most powerful fluorescent lamps for general floodlighting purposes was announced recently by General Electric Co., Nela Park, Cleveland 12, Ohio.

Suitable for large-area floodlighting, the lamp is a 6,000-watt combined mercury-fluorescent tubular light source, five feet long and four inches in diameter. A mercury arc tube, one inch in diameter, extends the length of the lamp. This pro-



duces high intensity light, which is improved in color quality by the phosphor on the outer casing.

The lamp produces 330,000 lumens, or units of light, an amount

equal to the light produced by nearly 400 60-watt household incandescent bulbs. It has an operating life of around 4,000 hours.

Use of the new light source is seen in situations where it may be desirable to have a few powerful lamps rather than many conventional floodlights. In typical installations such as in large parking lots the lamps would be mounted in fixtures on high towers so that each one could illuminate a wide area.

In appearance the lamp resembles a portly fluorescent lamp, with mogul bi-post bases at either end of the four-inch hard-glass tube. Even though both the glass tube and phosphor are heat resistant, the lamp must be protected from the elements. It is expected that blower cooling will be required to limit the lamp's temperature.

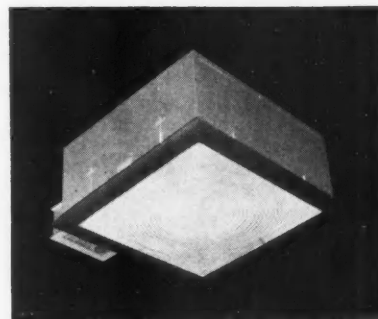
One experimental fixture using the new lamp, mounted at a height of 60 feet, provides illumination of five footcandles—"whiteway" brilliance—over an entire acre of land.

Write P-1018 on reply card, p. 21

Litecraft incandescent line

A new recessed incandescent lighting fixture line, the Park Square, has been announced by Litecraft Manufacturing Corp., 100 Dayton Ave., Passaic, N.J.

The Park Square provides a choice of three shielding elements and a wide range of finishes to meet the lighting requirements of nearly all



residential, commercial, and institutional interiors.

Basic housings in 100-watt, 150/200-watt, and 300-watt sizes are designed to accept any combination of face frames and shielding.

Five new face frame finishes have been developed. These are gold anodized aluminum, satin anodized aluminum, sparkling brass, bright chrome, and a pure white enamel.

Three shielding elements are available, including a pure white Opal diffuser, a finely-textured Albatex diffuser, and an efficient Fresnel lens.

Write P-1019 on reply card, p. 21

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CATALOG NO. 3060

Lighting bulletins

The new "Area Lighting Designer's and Buyer's Guide," a comprehensive presentation of all luminaires, controls, poles, brackets, and hardware associated with G-E area lighting, is available from General Electric Co., 1 River Rd., Schenectady 5, N. Y. The guide spells out application data, gives illustrations and installation recommendations, plus providing proper footcandle levels and how to achieve them.

Write B-1020 on reply card, p. 21

A booklet describing the Mark II Mainliner, a new line of commercial recessed fluorescent luminaires, is available from the Westinghouse Lighting Div., Edgewater Park, Cleveland, Ohio. The illustrated ten-page booklet, No. B-8235, points out the unique construction of the new fixtures and the many style combinations offered.

Write B-1021 on reply card, p. 21

A 12-page full color catalog of economy lighting is offered by Globe Lighting Products, Inc., 1710 Flushing Ave., Brooklyn 37, N. Y. The catalog features 52 decorative incandescent units designed for economical multi-purpose residential use.

Write B-1022 on reply card, p. 21

The 1961 catalogs, No. 62 and 62A, have been issued by S. S. Sarna, Inc., 39 W. 19th St., New York, N. Y. Shown are the complete lines of decorative residential fixtures, including Sarna brass lanterns, bells, and decorative accessories, plus the lines of hand carved Shesham wood plaques, screens, trivets, and numerous new items.

Write B-1023 on reply card, p. 21

A brochure from the Moe Light Div., Thomas Industries, Inc., 207 E. Broadway, Louisville 2, Ky., gives illustrated catalog data and specifications on Adjust-All round recessed fixture housings. Various trims are also included.

Write B-1024 on reply card, p. 21

A four-page illustrated brochure highlighting the features of the new Park Square line of incandescent lighting fixtures has been issued by Litecraft Manufacturing Corp., 100 Dayton Ave., Passaic, N. J. The brochure illustrates how the basic housings can be used to accept any one of several combinations of new face frames and shielings in new and existing ceilings. Complete ordering information is included.

Write B-1025 on reply card, p. 21

A new four-color catalog entitled "The Light Idea" is announced by Virden Lighting, 6103 Longfellow Ave., Cleveland 3, Ohio. The 60-page catalog describes and illustrates indoor and outdoor residential lighting to enhance decor or create a mood. There are 15 different lighting fixture groupings depicted in the catalog, including luminous ceilings, glass and ceramic pendants and spreaders, spots, floods, and garden and driveway lights, as well as the complete range of indoor fixtures.

Write B-1026 on reply card, p. 21

A four-page lighting report, entitled "Indoor Sports Lighting for Educational Institutions" is offered by Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y. The brochure includes 12 photographs showing both mercury vapor and incandescent fixtures in indoor gymnasium applications. It discusses light distribution, uniformity, compactness of light source, output/wattage relation, life, shielding, upward light component, installation, and maintenance with reference to gymnasium installations.

Write B-1027 on reply card, p. 21

Indoor and outdoor decorative holiday lighting is illustrated in a brochure from Steber Div., the Pyle-National Co., 2700 Roosevelt Rd., Broadview, Ill. Included are spotlights and accent lights with and without moving color wheels for use with Christmas trees and other displays.

Write B-1028 on reply card, p. 21

A brochure on decorative vinyl diffusers for luminous ceilings is now available from Polyplastex United, Inc., 870 Springfield Rd., Union, N. J. The illustrated folder covers 13 designs in various colors, plus the cataloging data and specifications for each.

Write B-1029 on reply card, p. 21

A catalog on new residential and commercial fixtures is now being offered by Charles A. Starr Light Co., Ltd., 4901 Exposition Blvd., Los Angeles 16, Calif. The illustrated catalog is No. 160.

Write B-1030 on reply card, p. 21

Early American as well as ultra-modern residential lighting fixtures are shown in the new ten-page catalog, No. 7, available from Harry M. Pate, 9065 Washington Blvd., Culver City, Calif. Illustrated descriptions and or-

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dering data are included for the fixtures in various combinations of brass, copper, glass, and plastic.

Write B-1031 on reply card, p. 21

Surface wiring raceways which can support lighting fixtures are described in detail in booklet G-2, now available from Steel City Electric Co., 1207 Columbus Ave., Pittsburgh 33, Pa. The booklet describes the new "channel mounts," which form a rigid platform for fixture attachment when dropped to any level.

Write B-1032 on reply card, p. 21

The E-Lite Co., Inc., 111 W. 22nd St., New York 11, N. Y., has begun distribution of their new consumer color brochure "Beauty from Above." This guide to the use of imported chandeliers in both residential and commercial dwellings features photos and line drawings of original ways in which they can be used.

Write B-1033 on reply card, p. 21

A new line of incandescent downlights being made for Westinghouse by the Frink Corp., 211 63rd St., Brooklyn 20, N. Y., is described in a 12-page catalog, FR2, now available from Frink. Features and application data for square, round, eyeball, and low-brightness aperture styles in 75- to 300-watt sizes are listed.

Write B-1034 on reply card, p. 21

An illustrated brochure covering a wide range of high reflectivity specular and diffuse surface finishes is available from Kingston Industries Corp., 150 E. 35th St., New York 16, N. Y. Details are given on the high reflectance factors and on other qualities.

Write B-1035 on reply card, p. 21

Commercial and residential lighting fixtures in traditional or contemporary styles are covered in a new 48-page color catalog recently released from Timely Lighting Products, Inc., 4501 Perkins Ave., Cleveland 3, Ohio. The catalog, No. 612, illustrates 250 items.

Write B-1036 on reply card, p. 21

Luminous ceilings

(Continued from page 58)

of flat sheet acrylic cut to size.

The foreground of the room features two- by four-foot acrylic plastic type ceiling fixtures. Walls

of the center are painted with a plaster mural which suggests an outdoor scene. Cabinets are finished in walnut.

The curved ceiling creates a spacious effect with a "floating" quality. Translucent plastic tops provide illumination inside cupboards.

Selling fixtures

(Continued from page 55)

that he saw a certain fixture in a specific home in a development, Mr. Mankin can quickly look up the type of fixture that went into that home and provide the customer with a duplicate.

In the same file, he maintains suggested lighting fixtures for every room in the home, which makes it unnecessary for him to return to that development, and he can help customers right in the showroom when they walk in.

By having available literature on every lighting fixture that is most adaptable for each room in the home of a certain development, the customer can more quickly center his or her interest on a particular type of fixture—and this results in a quicker sale.

"We keep these files for many years after the original development has been sold out because of repeat business that is constantly coming in," explains Mr. Mankin.

"Just recently, as an example, we had a customer who bought a home which was six years old in a development, and they wanted lighting fixtures similar to another property they saw in the same area. Going to our files, we knew the exact fixtures the customer wanted in his recently purchased home and duplicated them with ease."

Uhr Electric has a modern showroom in which a full line of fixtures for every use is dis-

played. All the displays are departmentalized to make selections easier and include full varieties of fixtures for the foyer, hallway, kitchen, bedroom, living room, and exterior.

Because of the popularity of recessed lighting and crystal fixtures, two separate showrooms are maintained for each. Uhr Electric claims to have the largest selection of these two types of fixtures in the entire Delaware Valley area.

Once fixtures are sold to the customer, such additional features are brought to their attention as signaling devices, intercom systems, fire alarm systems, dimmer controls for lighting, and high-low switches. In many instances, certain customers may have need for additional lighting in different areas of their homes and Mr. Mankin helps them to make proper selections.

"There is no pressure connected with this selling," explains Mr. Mankin, "only the simple manner of suggesting these items and pointing them out to the customer."

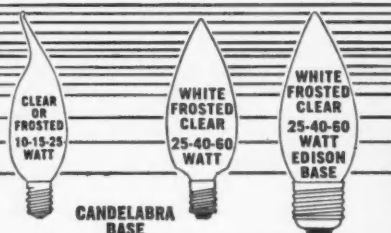
"Customers can quickly determine if they need any of these additional items and we can make arrangements for them with their electrical contractor to see that they are properly installed in their homes. In some instances, customers remember these items and when they are required at a later date they eventually return to us and make their selections."

Uhr Electric Supply is housed in a modern building which contains 13,500 square feet of space. The new building is situated on an 82- by 325-foot lot, with additional room available for future expansion.

Originated more than 50 years ago in Philadelphia, Uhr Electric moved to southern New Jersey where they could be in more di-

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rect contact with the tremendous expansion taking place in the Delaware Valley area. Contractors and residential customers have easier access to their location.

Code rules

(Continued from page 60)

metallic shield between the primary and the secondary windings. They are required also to be installed "remotely" from all lighting units which they supply and to be provided with overcurrent protection for both the primary and the secondary windings.

Of course, one feature about 12-volt lighting circuits which sometimes is objected to for reasons of economy is the increased wire sizes needed to carry the current without undue voltage drop. On the other hand, economy which can be obtained only at the expense of safety should not even be considered.

At least one alternative to low-voltage underwater lighting systems, however, which has been proposed is that only the dry-niche type pool lighting be permitted. Needless to say, the complete prohibition of the wet-niche type of pool lighting is a more drastic restriction than a limitation of the voltage to such units. Some feel that even the dry-niche lighting should be limited to the low-voltage type.

The Code Panels are still hard at work on these problems and, it is hoped, will arrive at a satisfactory and sound solution before a rash of local ordinances are passed to satisfy local preferences. All comments to the Code Panels for recommendations must reach them by December 1, 1961, to be considered for inclusion in the 1962 Code.

Motion picture studios

The discussion of some of the less well-known Code rules governing motion picture studios and similar locations will now be continued.

Section 530-13 requires switches controlling stage set and effects lighting to be of the externally operable type.

Contactors are permitted by this section to be used as the disconnecting means for fuses provided that an individual switch of the externally operable type, such as a tumbler switch, is used for the control of each such contactor and is placed within six feet of the contactor which it controls, or an externally operable switch which simultaneously disconnects all of the contactors on any one location board and which is placed within six feet of such a board.

There is no Code requirement prohibiting these switches from being in the operating coil circuit of the contactor so that it would not be required to carry line current, provided that the tumbler type switch is used. Momentary contact switches, of course, would be prohibited for this purpose.

Additional switches

Additional remote control switches for each contactor, including the momentary contact type, are permitted to be used in addition to the externally operable, tumbler type switch which is required to be placed not more than six feet from the contactor or from the location board. Such additional remote control switches may be placed at any distance from the contactors or location boards. See Figure 1.

Each receptacle of plugging boxes is required by Section 530-14 to have a minimum current-carrying capacity of 30 amperes.

Section 530-15 requires all live parts to be either enclosed or guarded from contact of any kind either by persons or by objects. All switches are required to be of the externally operable type. Rheostats are required to be provided with approved enclosures with externally operable handles.

Section 530-16 requires all portable lamps and work lights to be provided with approved portable cords, composition or porcelain sockets, and approved guards except for portable lamps which are used as props in motion picture sets which are exempt from the rules governing operating equipment.

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Office lighting

(Continued from page 36)

candles of illumination in the loft areas and the required 65 to 80 footcandles in the office space.

The mounting height is nine feet, four inches from the floor and where it was considered desirable to carry the same lighting pattern from the inside to the exterior, the same fixture was used on the exterior but with stainless steel waterproof frames.

Specially designed Albrite fixtures were used in the auditorium lobby, and consist of 36-inch diameter inverted brass bowls which reflect the light into 12-foot diameter recessed plastered domes, without throwing light on the flat ceiling.

Lighting for the auditorium consists of downlights with a four-inch aperture in the ceiling and special stainless steel perforated wall brackets. The elevators were lighted with an overall ceiling of honeycomb plastic sandwich, made by Pacific Lighting Co., San Francisco, with the fluorescent fixtures above.

The elevator lobby on the ground floor features a specially designed Albrite four-foot square fixture. The upper floor elevator lobbies are lighted with four-foot diameter round plastic diffusers.

The building rises nearly 200 feet above the street. The plan dimensions are 86 by 230 feet and the two-story auditorium structure adjacent to the tower has been structurally separated so as not to affect the dynamic behavior of the tower itself.

Structurally, the building has a

movement-resisting steel frame, lightweight concrete floor fill, on cellular steel decking, with marble facing over the exterior concrete fireproofed steel columns and the concrete encased steel spandrel section. There are no conventional concrete or masonry filler walls to help in resisting the lateral forces.

Box girders, fabricated of steel plates and angles, carry the spandrel girder loads, to transmit movement to the columns and to provide lateral support for the columns.

The entry to the building is protected from weather by a 20-foot canopy and the lobby is surrounded by 22-foot floor-to-ceiling windows. Banks of individual flush fluorescent lighting fixtures illuminate the canopy and lobby areas.

The auditorium lobby is at the left of the spacious main lobby and is in an area dominated by a large semi-abstract needlepoint tapestry which depicts the Western states in which Bethlehem operates.

Overhead, 12-foot diameter dome light fixtures provide circles of white, creating a general area illumination to accent the tapestry as a focal point of the entire room.

The 200-seat auditorium features a heavily textured beige curtain, remote controlled from a projection booth. From this booth the projectionist can control the ceiling pin lights as well as the bracket lights which line each side wall.

An emergency generator, pow-

ered by a natural gas operated engine, produces 25 kw for emergency lighting and the entire system is operated by chief engineer Doyle David with a crew of only five engineers.

Small apartment

(Continued from page 40)

over the coffee table is dimmer controlled, as are two other lamps in the living room.

The vestibule has a four-foot light span, ceiling suspended and controlled by a high-low switch. The bathroom wall dimmer controls a theatrical type arrangement of G-16½ lamps mounted in a decorative wood molding.

The lighting fixtures in the living room attached to the brass finished light span are 50-watt R-30 lamps in white exterior, black interior metal cylinders. Each metal cylinder is about eight inches long, and the use of spacers allows the same lamp to create a spot or flood effect.

One battery of lamps on a light span controls the intensity on the soroban screen to permit or exclude a view of the planting area (in the dining area) from the living room.

Bank lighting

(Continued from page 43)

activities or an area in which to display the painting efforts of area residents, Sarasota Savings has a tastefully appointed art gallery, lighted with Lightolier Reflect-O-Light units. In the bank's community room, the row upon row of recessed Plexiglas fixtures pro-

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vide an even distribution of light at a comfortable level.

With a wise selection of color, the net result is that reflectances and textures of the architectural appointments and work surfaces attain two major lighting objectives: a comfortable visual environment for employees and a warm and inviting atmosphere envisioned by the architect.

For exterior lighting of the building's walls, Willis Electric installed pencil-like 500-watt quartz fixtures (Wheeler-Fullerton), while a single 100-watt mercury vapor fixture illuminates the feature plantings at a prominent corner of the bank structure.

Willis Electric Company's job involved \$7,000 for the fixtures and \$11,000 for the wiring.

Flower shop

(Continued from page 44)

installed in a two-by-two-foot opaque panel.

The metal trim of luminaires seen below the opaque panels is

painted in various bright colors to add more interest to the lighting units. An extra-long section of flexible conduit was used on each unit to provide great flexibility so that the units could be shifted around to various panels.

Electrically independent of the luminous ceiling, the spotlight units create a separate attractive and dramatic lighting effect. In use, these units highlight and dramatize special floral arrangements.

The rear wall of the shop is an interesting composition which includes a simulated cedar shingled cottage, behind which is a customer consultation office. Next to the cottage is a well-lighted refrigerator which serves as the "picture window" and the balance of the wall is painted flat white.

A different technique of illuminating the cottage and back wall was used. This consisted of the use of 150-watt R-40 flood-lamps in adjustable sockets attached to the original ceiling on

nine-inch stems, four feet on center at the edges of and above the floating ceiling.

Use of these lamps provides an extremely effective wall wash and great flexibility is assured by use of various colored reflector lamps if desired. The wall wash flood-lighting units are also electrically independent of the other lighting and may be used separately or in conjunction with the other lighting for various lighting sensations.

The entire theme of the shop design is that of a large picture window, to permit easy visibility from the street. To provide high-level accent lighting in the windows was an item of prime consideration. This was done by the use of recessed adjustable fixtures with 150-watt PAR 38 spot-lamps installed on two-foot centers. These lamps were used for great efficiency and light control.

The combination of the four lighting systems was needed and used to provide adequate lighting in both a horizontal and verti-

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cal plane to minimize daytime reflections which are extremely detrimental to viewing. As a result of this well-planned and installed lighting job, the interior of the shop can be seen without difficulty from the street, even on extremely bright days.

One other interesting feature of the interior is the treatment of wall behind the brick planter. Rows of grass skirts conceal a large show window and provide a neutral backdrop for the profusion of greens displayed in the planter. To provide adequate lighting for this section, which is beyond the limits of the luminous ceiling, continuous rows of two-lamp fluorescent strips are installed behind a plaster valance.

Cool white fluorescent lamps are used in these strips to bring out the deep green of the plants, and this lighting also serves as an effective night light.

The shop is located on a heavily traveled boulevard and most of the traffic is moving at high speed. In order to catch the attention of motorists, it was necessary to use lighting that would draw attention to the sign and the shop. This was done by use of 1,500-ma lamps in weatherproof aluminum fixtures with ballasts mounted remotely. The sign is a large flush mounted type with bold face printing over a form of checkerboard background.

Nine eight-foot and one four-foot units were used to create the illumination level desired for this sign. The lighting is of very high intensity and even though the fixtures are mounted approximately 20 feet above ground level, lighting levels of more than 20 foot-candles were recorded on the pavement area below without the inside lighting being on.

The sign lighting is on a timer to provide reliable operation at all times. An interesting feature is that the lighting is turned on just before it becomes dark and remains on all night, being turned off after sunrise. Mr. Silverblatt is convinced that this is an economical and effective method of advertising his shop and location.

This particular installation is perhaps one of the few where the owner, the utility, and the contractor are all in accord with the end product desired and the desire of each to achieve that result. Close cooperation between the three resulted in a highly unusual and original installation that has created interest in fields far removed from the floral industry.

Close attention was given to the most minute details of construction to insure a more than satisfactory installation. Circuiting of the store lighting, convenience outlets, motors, and lighting in the workroom areas was installed heavy enough to take additional loading without additional wiring.

As the electrical contractors, we at MAK Lighting were more than pleased with the ultimate result of the job and the attention it has created. This attention has resulted in additional lighting installations done in cooperation with the Duquesne Light Company and Mr. Zitelli to provide others with lighting truly tailored to their needs.

Home lighting

(Continued from page 48)

The hallway leading to the bedrooms has two ceiling fixtures with opal glass globes ten inches in diameter and a 60-watt bulb in each. The basement stairway has the same fixture at the head of the stairs.

Downstairs in the basement, each room has one wall switch controlling ceiling lights in that room. This will permit finishing off the basement for a recreation room later. The wall switch also lights the way into the room—no fumbling for a pull chain in the dark.

Outdoor lighting includes six installations: four double floods with a 150-watt bulb in each, two installations front and two rear; a black wall bracket with a ceramic white glass shield and 75-watt bulb at the front entrance; and a hanging fixture of black and brass with a white opal glass shield and a 75-watt bulb at the back door porch.

Wiring was laid to a base for a later installation of a yard post light at the end of the drive near the street.

The average fixture budget for a house of this size, said the contractor who built the Zimmer house, is about \$150. Fixtures in the Zimmer house total nearly \$250, plus \$35 more in light bulbs.

Miss Blanche Waggener, home lighting supervisor in the home service department of the Columbus and Southern Ohio Electric Co., helped the Zimmers plan the lighting to fit their needs and budget and to meet the Light for Living standards.

Worker comfort

(Continued from page 51)

for supplemental directional lighting for critical tasks.

Mr. Graham himself designed a "diamond pattern" for fixture mounting, in contrast to the more common parallel rows of fixtures, in an effort to help reduce shadowing to a bare minimum. This gives the benefit of some cross shielding from any direction.

"We selected Power Groove fluorescent lamps on the basis of actual competitive tests and found their high light output performance, coupled with their exceptional life, gave us the best results," Mr. Graham said.

"We found that using Power Groove fluorescent lamps gave us 25 per cent more light and a significantly longer life than the other lamp types operable on similar ballasts and power rates."

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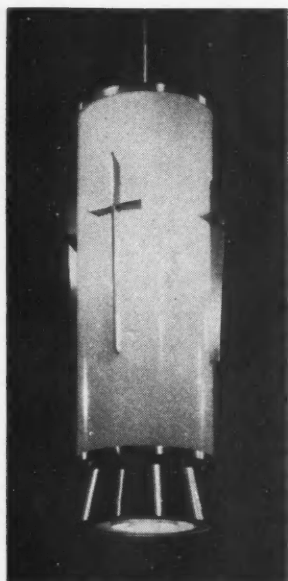
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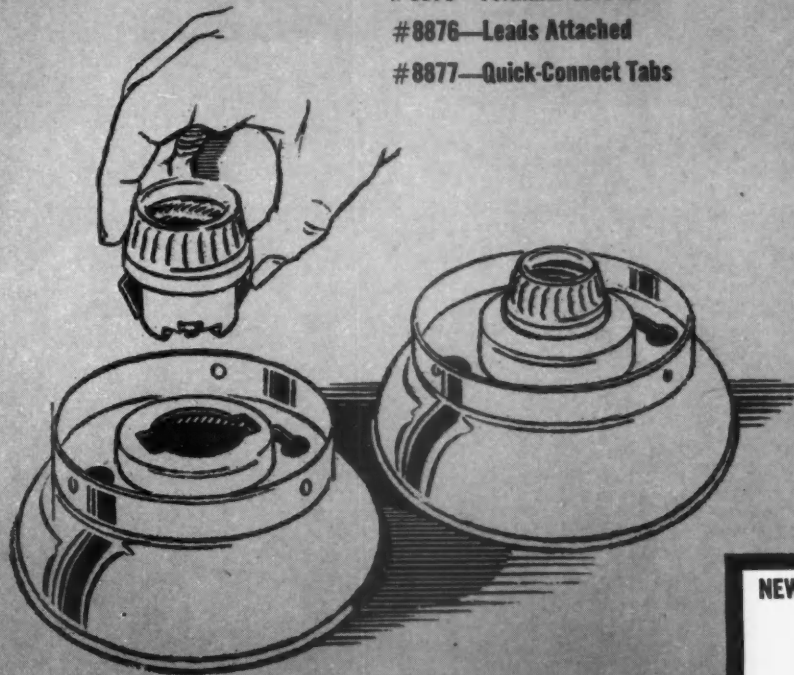
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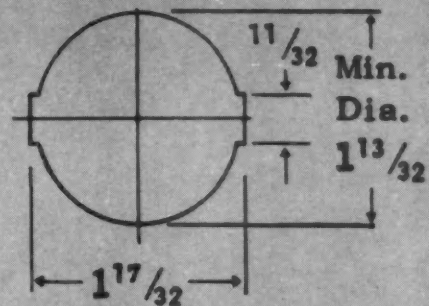
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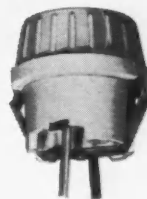
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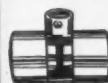
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